

# MATERIAL LIFE OF NORTHERN INDIA

# MATERIAL LIFE OF NORTHERN INDIA

# **MATERIAL LIFE OF NORTHERN INDIA**

Based on An Archaeological Study

(3rd Century B.C. to 1st Century B.C.)

**Asha Vishnu**

**MITTAL PUBLICATIONS**

NEW DELHI - 110059 (INDIA)

[The publication of this book has been financially supported by the Indian Council of Historical Research, New Delhi. The responsibility for the facts stated/conclusion reached is that of the author and not of the Council.]

**First Edition, 1993**  
© 1993 by *Asha Vishnu*  
*All rights reserved*

ISBN 81-7099-410-1

Published by K. M. Rai Mittal for Mittal Publications, A-110, Mohan Garden,  
New Delhi-110059

Typeset by M/s Laser Tech, New Delhi-110027

Printed in India at New Gian Offset Press, Delhi-110035

# CONTENTS

<i>Acknowledgements</i>	vii
<i>Abbreviations</i>	ix
<i>List of Plates</i>	x
<i>List of Sites</i>	xix
<i>Map</i>	
I. INTRODUCTION	1
II. SOCIAL LIFE	7
A Dress and Drapery	7
1. Male dress	7
2. Female dress	12
B Ornaments and Jewellery	15
C Coiffure and Cosmetics	25
1 Toilet box	25
2 Tilaka mark	27
3 Tatoo mark	27
4 Flowers and garlands	27
5 Hair dress	27
D Items of Daily Use	30
1 Furniture	30
2 Other items of daily use	33
E Pots and Pans	35
1 Pottery	35
2 Pots as depicted in sculptures	62
3 Metallic pots	64
F Recreation	65
III. ECONOMIC CONDITIONS	87
A Industry and Trade	87
B Agriculture	88
C Other Professions	91
D Artisan's Tools	95
E Furnaces and Factory Sites	98
F Shops and Markets	98
G Weights and Measures	98
H Transport and Communications	99
I Coinage System	104
J Seals and Sealings	109
IV. ART	118
A Sculptures	118
B Bone and Ivory Objects	133
C Metal Objects	133
D Terracottas	133

V.	ARCHITECTURE	158
	A Cities and Towns	158
	B Buildings	163
VI.	RELIGION	191
	A Brahmanism	191
	B Mythical Beings	197
	C Buddhism	198
	D Jainism	200
	E Minor Religions Sects	202
	F Animals in Religion	202
	G Trees in Religion	203
	H Terracotta Discs	203
	I Amulets	204
	J Fire Receptacles	204
	K Ritualistic Pots	204
	L Votive Tanks	204
VII.	ARMS AND ARMAMENTS	210
	A Fortification	210
	B Army	210
	C Weapons	212
	D Miscellaneous Weapons	218
	E Armour	218
VIII.	CONCLUSION	225
	<i>Appendices</i>	229
	<i>Bibliography</i>	251
	<i>Plates</i>	261

## ACKNOWLEDGEMENTS

I take this opportunity to acknowledge the help and inspiration given to me by my supervisor Professor R. C. Gaur, Centre of Advanced Study, Department of History, Aligarh Muslim University, to undertake this research work. It was under his able guidance and assiduous supervision that I was able to complete this research in a comparatively short span of time.

I am extremely thankful to the Vice-Chancellor of Avadh University and members of the research committee of the same university for permitting me to conduct this research work under the auspices of the university.

I am equally grateful to the authorities of the Aligarh Muslim University, Aligarh, for allowing me to enrol myself under the supervision of Professor R. C. Gaur to pursue the research. Professor K. A. Nizami, Department of History and Mr. B. R. Grover, former Director of Indian Council of Historical Research, were kind enough to award me a research fellowship of the Indian Council of Historical Research. Without this financial help, it would have been extremely difficult for me to complete the work smoothly.

I also express my sincere thanks to Dr. M. S. Nagaraja Rao, Director General, Archaeological Survey of India, New Delhi for allowing me to study the archaeological material in its antiquity section at Purana Qila and to use the library books from its central library. I am thankful to Mr. K. N. Dixit, Director (Publications), Mr. K. K. Sharma, incharge of the antiquity section, Mrs. Subbarao, chief librarian and Mr. Chandra Mohan Srivastava, librarian and other members of the library staff.

I also thank Mr. O. P. Gupta, librarian of Saket Degree College, Faizabad, Mr. Jalal, librarian, Centre of Advanced Study, Department of History, Aligarh Muslim University, Mr. J. S. Rawat, librarian, Mr. Anand Kumar, documentationist and Mr. M. C. Pant, Library Assistant, all of Administrative Training Institute, Naini Tal for providing me library facilities.

During the course of my studies I also visited some museums. I am thankful to Dr. Sahare, Director, National Museum, New Delhi, Mr. Mathur, Deputy Director, Lala Aditya Narayan, Miss Shashi Asthana, Mrs. Vanaja, Mr. Bamaniya and the librarian of the Museum for facilitating my study of the reserve stock therein.

At Varanasi. Mr. N. R. Banerjee, former Director of the National Museum, New Delhi and now Visiting Professor, Bharat Kala Bhawan, Mr. O. P. Tandon, Officer on Special Duty, Mr. S. K. Biswas, Joint Director and Bhogendra Jha, Assistant Curator, all of Bharat Kala Bhawan, Banaras Hindu University, Varanasi were kind enough to provide me photographs of various relevant material from the reserve and strong room stock for study.

Mr. V. R. Nambiar, Associate Director. Mr. M. A. Dhaky, Associate Director Research and Mr. Krishna Deo, former Director of the Archaeological Survey of India, gave me all co-operation and help in collecting material for my work. I am beholden to all of them for supplying me free of cost a large number of photographs of relevant sculptures and terracottas

I am grateful to Dr. A. K. Srivastava, Director, Mathura Museum, Dr. R. C. Sharma, Director, State Museum, Lucknow and Mr. S. K. Rastogi, incharge of the terracotta section of the same museum for rendering me valuable help in collecting the relevant material and also for useful academic discussions on my subject.

I have had the privilege of getting valuable help from a number of eminent scholars. I particularly wish to record my indebtedness to Professor B. B. Lal, former Director, Indian Institute of Advanced Study, Simla, who vigorously encouraged me during the initial stages of my work. Besides, Mr. M. C. Joshi, Director of Explorations and Mr. J. P. Joshi, Additional Director General of the Archaeological Survey of India provided me valuable help through academic discussions over the disputed material.

My thanks are also due to Mr. Zahoor Ali Khan for preparing the map of the sites and to Mr. Surendra K. Singh for his careful and neat typing.

Though the purpose of the present study is to derive evidence for the material life of the latter half of the N.B.P.W. archaeological phase (c. 3rd century B.C. to 1st century B.C.), a separate chapter on art has also been included in this study, as it appeared relevant to the topic. However, for this chapter I have mainly based myself on the works of eminent art historians like Dr. V. S. Agrawal, Mr. S. K. Saraswati, Mr. A. K. Coomaraswamy and others.

During these years of sustained efforts, I got invaluable encouragement and support from my father-in-law Mr. R. V. Gupta and my late mother-in-law.

Last, but not the least, the family members of my supervisor provided me homely atmosphere and comforts for which I am really thankful to them.

The encouragement and co-operation provided by my kith and kin have been invaluable.

Asha Vishnu



## ABBREVIATIONS

A.I.	Ancient India
ASI-AR	Archaeological Survey of India, Annual Report
ASR	Archaeological Survey Report
MASI	Archaeological Survey of India, Memoirs
BMFAB	Bulletin of the Museum of Fine Arts-Boston
Epi.Ind.	Epigraphia Indica
IHQ	Indian Historical Quarterly
IAR	Indian Archaeology : A Review
JRAS	Journal of the Royal Asiatic Society of Bengal
JBORS	Journal of the Bihar and Orissa Research Society
JUPHS	Journal of the Uttar Pradesh Historical Society
JISOA	Journal of the Indian Society of Oriental Art, Calcutta
N.P.P.	Nāgari Pracharni Patrikā
SBE	Sacred Books of the East

## LIST OF PLATES

- I Turbans
- II Turbans
- III Male Hair and Head-Dresses
- IV Male Hair and Head-Dresses
- V Female Hair and Head-Dresses
- VI Female Hair and Head-Dresses
- VII Female Hair and Head-Dresses
- VIII Female Hair and Head-Dresses
- IX Ear Ornaments
- X Neck Ornaments
- XI Neck Ornaments
- XII Neck Ornaments
- XIII Hand Ornaments
- XIV Waist Ornaments
- XV Foot Ornaments 1-5 and some ornaments found during excavations; copper brooches : 6-Hastinapur (1/2); 7-Śravastī (1/2); copper bangles : 8-9, Sravastī; copper anklet : 10, Atranjikhera (2/3); copper fingerring : 11, Atranjikhera (2/3), Gold necklace : 12, Vaiśālī (4/7)
- XVI Finger rings; 1-7, Hastinapur; terracotta pendants : 8-10 Atranjikherā
- XVII Glass bangles : 1-6, Atranjikherā : terracotta bangles : 7-9, Atranjikherā
- XVIII A I-15, Mathura Museum: male figure in stone : wearing turban, uttariya, armllet, torque and hāra and holding chauri in right hand
- B Sānchi Stūpa No. 2, showing a man wearing cap, tunic and boots and holding dagger in one hand and shield in the other
- XIX A 62. 252, National Museum, New Delhi, terracotta yaksha from Ahichchatra wearing dhoti, katiwastra and uttariya with his hair arranged to left side in one lateral bun

- B Sanchi sculpture showing an orchestra party. All the members wearing tahaband
- XX A Bharhut sculpture depicting vasantara jataka, showing dress and hair of ascetic; ear ornament and necklace on mending creeper
- B Bodhgaya, Bihar, c. 1st cent. B.C.; standing yakshi wearing cap, saree, necklace, girdle ? Bangles and Anklets
- XXI A Terracotta female in Patna Museum wearing skirt, a very elaborate head-dress and a torque.
- B Patna Museum terracotta female wearing skirt, girdle, torque, ear ornament and bracelets
- XXII A Terracotta plaque depicting standing female, Mathura Museum, wearing skirt, torque, bangles, girdle and hair dress
- B Female bust, Kausambi, Allahabad Museum c. 1st B.C. wearing dupatta over her head, discoid earrings and a very peculiar torque with three strings
- XXIII A Female votive figure wearing saree, dupatta, necklace, bindi, c. 1st cent. B.C. Kānaúj, Kanauj Museum
- B Terracotta female bust wearing bindi, (34-2372 Mathura Museum)
- XXIV Terracotta skin rubbers : 1-2 Atranjikhēra; copper pin : 3-hooked, Hastinapur (1/2); 4-Sravasti; ivory mirror handle : 5-Hastinapur (1/2); copper nail parer : 6-Hastinapur (1/2); copper antimony-rod : 7-8 Hastinapur (1/2); 9-Atranjikhēra (2/3)
- XXV A Moulded female head, 2nd-1st cent. B.C., wearing muktavali, Rajghat (Allahabad Museum)
- B Śalabhanjika, wearing swarnapattika, channavira, girdle, ear ornament, bangles and anklets, Sanchi (Indian Museum)
- XXVI A Inscribed railing piece depicting female wearing stringed necklace with adjustment device; Kausambi (Allahabad Museum)
- B Terracotta moulded heads depicting different types of ear ornaments (Allahabad University)
- XXVII A A moulded plaque depicting lady with seven braids, centreparring, necklace, girdle, bracelets and earrings. Sunga (59-4748, Mathura Museum).
- B Bust of a female wearing a very elaborate head-dress, different types of ear-ornaments in both ears, necklaces and muktavali, Sunga (32-2241, Mathura Museum)
- XXVIII A Terracotta female head wearing turban like head-dress, Buxar (Patna Museum)
- B Moulded terracotta female head with head dress, Buxar (Patna Museum)
- XXIX A Moulded Terracotta female head wearing voluted head dress (Patna Museum)
- B Terracotta female wearing a unique skirt and head-dress

- XXX A Terracotta bust of a female wearing head band, torque, different types of ear-ornaments in two ears, and a hair dress with stamped rosettes hanging on either side of the head, Maurya, (38-2813 Mathura Museum)
- B Terracotta bust of a female wearing torque, ear-ornaments and a hairdo showing a different variety of the former. The rosettes look like round coins; Maurya (32-2224 MM.)
- XXXI A Terracotta plaque depicting a couple sitting on a sofa and resting their feet on a stool, Kausambi (O. 67 National Museum, New Delhi).
- B Terracotta plaque depicting a lady sitting on a cane seat (48.3410, Mathura Museum)
- XXXII A Railing pillar medallion depicting Maya's dream (2nd cent. B.C.) Bharhut, Satna (93, Indian Museum, Calcutta) representing—saree, swarna pattika, hara, bangle, girdle, anklet, bedstead, mattress, lamp, spouted jar, chauri, cushion.
- B Stone Grinders : 1-2, Atranjikhhera.
- XXXIII Stone querns : 1-2, Atranjikhhera, Terracotta querns : 3-4, Atranjikhhera.
- XXXIV Iron knife : 1-Atranjikhhera (2/3); 2, 3, 4-Sravasti; copper rod : 5-Atranjikhhera (2/3) stopper : 6-7 - Hastinapur (1/2) copper; copper ferrule : 8-Hastinapur (1/2), 9-Atranjikhhera (2/3); miniature bell : Hastinapur, 10-iron (1/2), 11-copper (1/2); toothpick : 12-Hastinapur (horn) 1/1; terracotta dabber : 13-Atranjikhhera.
- XXXV NBPW bowls : 1-3 Hastinapur (1/4); 4, 5 Atranjikhhera (1/3) 6-Prahladpur (1/3); 7-Atranjikhhera; Grey ware bowls : 8-Hastinapur (1/4); 9-Sravasti (1/4); 10-Atranjikhhera (1/3); 11-Hastinapur (1/4); 12-14 Atranjikhhera (1/3).
- XXXVI Red ware bowls: 1-3, Hastinapur (1/4); 4-7, Sravasti (1/4); 8-11, Atranjikhhera (1/3); 12-Rajghat; 13-14, Atranjikhhera.
- XXXVII Red ware bowls; 1-4; Atranjikhhera; black slipped bowls : 5-7 Atranjikhhera (1/3); 8-10 Prahladpur (1/3); Black and red ware bowls : 11, Prahladpur (1/3).
- XXXVIII NBPW dishes : 1-Atranjikhhera (1/4); Grey ware dish : 2, 3 - Sravasti (1/4); 4-8-Atranjikhhera (1/4); Redware dishes: 9-10-Hastinapur (1/4); 11-13 Atranjikhhera (1-4).
- XXXIX NBPW vase: 1-Hastinapur (1/4); Redware vase and carinated handis 2-8 Hastinapur (1/4); 9-Sravasti (1/4).
- XL Red ware vases and carinated handis:  
1-Sravasti (1/4); 2-12 Atranjikhhera (1/4).
- XLI Redware vases: 1-3, Atranjikhhera (1/4) 4-9, Rajghat; Black ware carinated handi: 10, Sravasti (1/4).
- XLII Redware basin: 1-2, Hastinapur (1/4); 3-4, Sravasti (1/4); 5-6, Atranjikhhera (1/4).

- XLIII Red ware basin: 1-8 Atranjikhhera.
- XLIV Red ware basin : 1-Atranjikhhera (1/4); 2-3, Prahladpur (1/3); 4-Rajghat; Greyware Basin : 5-6, Hastinapur (1/4).
- XLV Grey ware basins : 1-2 Hastinapur (1/4); red ware trough : 3, 4-Atranjikhhera (1/5).
- XLVI Red ware ring-stand : 1, Sravasti (1/4); 2-3, jar stand, Atranjikhhera (1/2), 4-5, Rajghat; Red ware trough : 6-8, Atranjikhhera (1/5).
- XLVII Red ware jar : 1-Sravasti (1/4); 2-9, Atranjikhhera (1/4).
- XLVIII NBPW Lid : 1-Hastinapur (1/4); Red ware lid : 2-4, Hastinapur (1/4); 5-6, Atranjikhhera (1/3); Coarse red ware - Lid : 7-Prahladpur; 8-9, Rajghat; Grey ware lid : 10, Atranjikhhera (1/2); red ware sieve : 11-Hastinapur (1/4).
- XLIX Red ware vessels : 1-10, Atranjikhhera (1/3).
- L Redware miniature bowls : 1-5, Atranjikhhera (1/2) grey ware miniature bowls : 6-7, Atranjikhhera (1/2) red ware miniature pots : 8-18, Atranjikhhera (1/2); 19-21, Rajghat.
- LI Painted and incised NBP ware : 1-6, Kausambi (5/3); Decorated pottery : 7-10, Rajghat.
- LII Decorated pottery : 1-2, Rajghat.
- LIII NBP ware sherd with stamped elephant: 1-Purana Qila, New Delhi; Anthropomorphic pot : 2, Purana Qila, New Delhi; grey ware kamandalu : 3, chirand.
- LIV Copper relic casket: 1-Vaisali (3/10); Iron pan : 2, Hastinapur (1/2); Iron lid: 3, Atranjikhhera (2/3).
- LV A Railing pillar depicting a dancing Nati wearing torque and a number of necklaces swarnapattika, armlet?, bangles, girdle, and anklets. Curly hair arranged in a lateral knot towards her right, Sunga (J-2, Mathura Museum).
- B Moulded terracotta male bust in namaskar posture—the oldest custom of greeting-C. 1st B.C., Kausambi (Allahabad Museum).
- LVI A Terracotta plaque representing a man on harp, Maurya (32.2258, Mathura Museum).
- B Terracotta plaque depicting elephant rider hunting a wild boar, Sunga (32-2278, Mathura Museum).
- LVII A Moulded terracotta cart, Sunga (54-3799, Mathura Museum).
- B Moulded terracotta piece showing picnic scene, Sunga, Kausambi (56-4284, Mathura Museum).
- LVIII Terracotta mask : 1-Chirand. Terracotta rattles : 2-3 Atranjikhhera.
- LIX Terracotta gamesmen : 1-7, Atranjikhhera; Terracotta ball : 8, Atranjikhhera.
- LX Iron hoe : 1, Atranjikhhera (1/2); Terracotta printing block : 2, Atranjikhhera; Terracotta reel : 3-4, Hastinapur; Iron scissor : 5, Ujjain; Bone awl : 6, Hastinapur; Terracotta spindle : 7, Hastinapur.

- LXI Terracotta net sinkers : 1-2, Atranjikhhera : Iron chisel : 3, Hastinapur (1/2); 4, Sravasti; Iron tongs : 5, Atranjikhhera (2/3); Copper tube : 6, Atranjikhhera (2/3); Iron floos : 7, Sravasti.
- LXII Iron chopping knife: 1; Chopper : 2; Scrapper : 3 Atranjikhhera (2/3).
- LXIII Terracotta crucibles : 1-2, Atranjikhhera; Iron ringfastner : 3, Atranjikhhera (1/2); Bone styluses : 4-6, Atranjikhhera; Iron socket : 7, Sravasti.
- LXIV Iron sockets : 1-2; Copper socket : 3; Glass weights : 4-6; Copper weight: 7, Atranjikhhera.
- LXV A Wooden chariot wheel, 3rd B.C., Bulandibagh (Patna Museum).  
B Moulded terracotta plaque showing chariot, Sunga (39-2853, Mathura Museum).
- LXVI A Terracotta chariot, 1st Cent. B.C., Kausambi, Allahabad Museum.  
B Stone torana slab showing different modes of transport, Mathura (Lucknow Museum).
- LXVII A Railing pillar, upper medallion showing three men on boat, 1st B.C., Bodhgaya.  
B Timilingala jataka showing a sea-monster swallowing a boat. Bharhut.
- LXVIII Symbols on the coins of Maurya kings.
- LXIX 1 : Punch marks on janapada coins under Maurya rulers; 2 : Seal impression: Hastinapur; 3 : Bone sealing with its impression on plasticine; Atranjikhhera; 4 : terracotta sealing with its impression on plasticine, Atranjikhhera.
- LXX A Asokan column, Lauriya Nandangarh.  
B Bull capital, Rampurva
- LXXI A Elephant, Dhauri  
B Yaksha, Parkham, Mathura (Indian Museum).
- LXXII A Yakshi, C. 3rd Cent. B.C., Didarganj, Patna (Patna Museum).  
B Medallion showing monkey barber pulling out hair from man's nose, c. 2nd cent. B.C., Bharhut, Satna (Indian Museum No. 191 Calcutta).
- LXXIII A Railing pillar medallion depicting Mugapakkha jataka, c. 2nd cent. B.C. Bharhut, Satna (Indian Museum No. 190, Calcutta).  
B Railing pillar medallion depicting purchase of Jctavana, c. 2nd cent. B.C., Bharhut, Satna (Indian Museum No. 156, Calcutta).
- LXXIV A Central Medallion of Vedika pillar showing winged naravyala, c. 2nd cent. B.C. Sanchi.  
B Half medallion of Vedika pillar showing bull with elephant head; C. 2nd cent. B.C. Sanchi.
- LXXV A Ring stone, C. 3rd cent. B.C.; Rajghat, Varanasi (Bharat Kala Bhawan No. 2/5201).  
B Inscribed ringstone; Rajghat, Varanasi (Bharat Kala Bhawan No. 2/5202).

- LXXVI A Stetite plaque depicting a merry scene in Hellenistic style; Rajgir.  
B A pair of copper frogs, Atranjikhhera.
- LXXVII Terracotta mould of human face, Sunga, place unknown (Mathura Museum No. 42-43/3045).
- LXXVIII A Terracotta toycart with head of a ram, Patna Museum.  
B Terracotta toycart, Atranjikhhera.
- LXXIX A Front part of a terracotta toy chariot with four horses; c. 1st cent. B.C.; Ahichachhatra (Allahabad Museum No. Ah. 194).  
B Fish tailed crocodile used as tricycle; c. 1st B.C., Kausambi (Allahabad Museum No. K 2592).
- LXXX A Terracotta bust with moulded face, Mathura (Mathura Museum No. 54-3785).  
B Terracotta female with applique ornaments, 00-T-30, Mathura Museum.
- LXXXI A Terracotta face of a smiling boy, Patna (Patna Museum).  
B Moulded terracotta female head, Sunga, Mathura (Mathura Museum No. 54-3805).
- LXXXII A Moulded terracotta squatting Yaksha, c. 1st cent. B.C., Kausambi (No. 3608, Allahabad Museum).  
B Moulded terracotta Persian noble man, Sunga, (35-2556, Mathura Museum).
- LXXXIII A Moulded terracotta foreigner, Sunga, (71-12, Mathura Museum).  
B Terracotta male head, Sunga (36.2702, Mathura Museum).
- LXXXIV A Moulded terracotta plaque depicting a lady with fan, Sunga (39-2859, Mathura Museum).  
B Moulded terracotta dampati plaque, c. 1st. cent. B.C., Ahichchhatra (Allahabad Museum).
- LXXXV A Moulded terracotta mithuna plaque, Sunga, (61-5227, Mathura Museum).  
B Moulded terracotta plaque depicting a man kidnapping a woman, mid 2nd 1st. B.C.; Kausambi (Allahabad Museum).
- LXXXVI Iron plumb bob : 1 - Atranjikhhera (1/2); Iron staple : 2, Atranjikhhera (1/2); copper clamp : 3, Atranjikhhera; (2/3); Iron bolt : 4, Atranjikhhera (1/2); Iron nails : 5, Hastinapur (1/2); 6-7, Sravasti.
- LXXXVII A A room with doorsil, period IV, Hastinapur.  
B Walls and drain; Hastinapur.
- LXXXVIII A Railing pillar depicting two storeyed edifice (c. 1st cent. B.C.) Bodhgaya.  
B Pierced stone screen with floral pattern, probably served as window (c. 1st cent. B.C.) Mathura.
- LXXXIX Two devices used for soakage of refuge water; jars with perforated bottom; and terracotta ring well; Hastinapur.

- XC Terracotta drain-pipe, Atranjikhera.
- XCI Barn showing post-holes.
- XCII A granary with lumps of charred grains, Atranjikhera.
- XCIII A Railing pillar depicting Parnakuti (c. 1st. cent. B.C.) Mathura (Mathura Museum-15586).
- B Lomash rishi cave facade (c. 3rd cent. B.C.) Barabar hills? Gaya.
- XCIV Plan of an apsidal temple having its opening in the east, Atranjikhera.
- XCV A Inscribed grey sandstone vishne (c. 2nd cent. B.C.) Malhar, Bilaspur (AIIS 329-54).
- B Punch marked coin depicting Balram with plough (Mathura Museum).
- XCVI A Terracotta disc depicting Surya, Rajghat (Bharat Kala Bhawan).
- B Railing pillar depicting Surya on chariot (c. 1st cent. B.C.) Bodhgaya.
- XCVII Terracotta plaque showing Kamadeva (site unknown) Sunga period (Mathura Museum) 34-2552.
- XCVIII A Terracotta plaque showing bust of Kamadeva (Sunga period) Mathura Museum (39-2849).
- B Monolithic statue of Kubera (c. 1st. cent. B.C.) Besnagar, Vidisa (Vidisa Museum).
- XCIX A Bronze Kalpavriksha with female sitting on it (c. 1st cent. B.C.) Chausa, Shahabad (Patna Museum).
- B Terracotta head of Siva showing jata, triratna and smashru (c. 1st. cent. B.C.) Shahabad (Jagdish Gupta Collection, Allahabad).
- C A Terracotta plaque showing Siva riding on Nandi (Sunga period) Kausambi (Bharat Kala Bhawan-11124).
- CI A Stone lintel showing worship of Siva on its reverse, Bhuteswara, Mathura (Archaeological Museum, Mathura-52.3625).
- B Railing pillar depicting Sirima devata (c. 2nd cent. B.C.) Bharhut (Indian Museum).
- CII A Terracotta plaque depicting Sri Lakshmi (c. 1st cent. B.C.) Kanauj (Kanauj Archaeological Museum).
- B Terracotta plaque showing Gaja-Lakshmi (Sunga period) place unknown (Archaeological Museum, Mathura, 42-43.3041).
- CIII A Terracotta plaque showing goddess Lakshmi with two attendants (Sunga period) Kausambi (?) Bharat Kala Bhawan, Varanasi-(9713).
- B Goddess seated on tortoise—Lakshmi or Yamuna (?) (c. 2nd cent. B.C.) Sanchi Vedic east entrance? North east pillar? North face stupa II (AIIS-313.15).
- CIV A Terracotta plaque showing female wearing auspicious symbols in her head dress (c. 2nd cent. B.C.) Kausambi (Allahabad Museum).



- B Terracotta plaque showing female head wearing five auspicious symbols on each side of her head dress (Sunga period) place unknown (Bharat Kala Bhawan-25/8/84).
- CV A Terracotta moulded plaque showing goddess Vasudhara (Sunga period) place unknown (Mathura Museum-32.2243).
- B Terracotta mother goddess with child in her lap (c. 1st cent. B.C.) Rajghat (Allahabad Museum-R. "2135).
- CVI A Medallion showing five faced naga (c. 2nd cent. B.C.) Sanchi, Stupa 2, Vedika Pillar.
- B Sevenfaced naga (c. 2nd cent. B.C.) Rajgir (Indian Museum).
- CVII A Railing pillar depicting Nāgā Raja (c. 2nd cent. B.C.) Bharhut (Indian Museum).
- B Naga in anthropomorphic form (Sunga period) Mathura Museum.
- CVIII A Yakshi Chanda (c. 2nd cent. B.C.) Bharhut (Indian Museum).
- B Terracotta plaque depicting Kinnar couple (Sunga period) place unknown (Mathura Museum-33-2350).
- CIX A Railing pillar showing Dharmachakra (Sunga period) Mathura museum (14-15.438).
- B Bronze Dharmachakra (c. 1st cent. B.C.) Chausa, Shahabad (Patna Museum).
- CX A Buddha's foot prints (c. 2nd-1st cent. B.C.) U.P. (Prince of Wales Museum, Bombay).
- B Railing pillar showing bodhitree (Sunga period) Mathura (Mathura Museum 18-516).
- CXI A Vajrasana (c. 3rd cent. B.C.) Mahabodhi temple Bodhgaya.
- B Nude torso (c. 3rd cent. B.C.) Mahabodhi temple Bodhgaya.
- CXII A Architectural fragment carved with dance scene of Nilanjana (c. 1st cent. B.C.) Kankalitila, Mathura (State Museum, Lucknow No. J 354).
- B Ayagapatta (c. 1st cent. B.C.) Mathura (State Museum, Lucknow No. 252).
- CXIII Terracotta discs : 1-Hastinapur (5.3 cms); 2-Prahladpur (1/1); 3-Atranjikhhera (1/1); Terracotta Amulets : 4-8, Atranjikhhera.
- CXIV A Torana depicting war of relics (c. 1st cent. B.C.) Stupa 1, southgateway, southern torana, Sanchi (AIIS 321.39).
- B Railing pillar depicting royal personage on elephant and attendant on horse back bearing standard (c. 2nd cent. B.C.) Bharhut (AIIS 243-15).
- CXV A Gateway pillar depicting Dvārpāla holding a spear in his left hand (c. 1st. B.C.) Stupa 1, western gateway, south pillar innerface, Sanchi (AAB 72-92).
- B Terracotta moulded bust of a warrior wearing a helmet (?) on his head (late Maurya) Mathura (M.M. 47-3352).

- CXVI A Terracotta ballista ball, Atranjikhhera.  
 B Yaksha with a human figure and a club (Mathura Museum, I-18).
- CXVII A Western gateway of Sanchi depicting Mara's army in havoc shows a man holding a trident.  
 B Iron spearheads : 1, Taxila; 2-3; Kausambi.
- CXVIII Iron spears : 1, Kausambi; 2-3, Atranjikhhera (2/3); Ironshaft 4, Atranjikhhera.
- CXIX Iron javlin :1, Taxila; 2-4, Kausambi; Bone arrow heads : 5-7, Pataliputra; 8, Atranjikhhera (1/1).
- CXX Iron arrow heads : 1-Ujjain; 2, Sravasti; 3-8-Kausambi.
- CXXI Iron arrow heads: 10, Kausambi; 11-14, Atranjikhhera (2/3).

## LIST OF IMPORTANT SITES OF NORTHERN INDIA RELATED TO THE STUDY AND THEIR CULTURAL PERIODS (MAURYA AND SUNGA)

S. N.	Name of site	Cultural period	Approximate date
1	2	3	4
1.	Kausambi Distt. Allahabad	III	c. 600 B.C. to beginning of Christian era.
2.	Bharadwaj Ashram Distt. Allahabad	I	Maurya
3.	Sringverpur Distt. Allahabad	III B,C IV A	Maurya Sunga
4.	Bateswara Distt. Agra	II	Maurya-Sunga
5.	Ahichchhatra Distt. Bareilly	II III	c. 300 B.C. - 200 B.C. c. 200 B.C. - 100 B.C. c. 1st cent. B.C.
6.	Sravasti Distt. Bahraich	II	c. 300 B.C. - 50 B.C.
7.	Piprahwa & Ganwaria Distt. Basti	II III	Circa 600-200 B.C. C. 2nd B.C.-beginning of Christian era
8.	Moradhvaj Distt. Bijnor	I II A	Maurya Sunga
9.	Atranjikhera Distt.. Etah	IV A B C D	c. 600 B.C. - 500 B.C. C. 500 B.C. - 350 B.C. C. 350 B.C. - 200 B.C. C. 200 B.C. - 50 B.C.
10.	Kanauj Distt Farukhabad	II	c. 600 B.C. - 200 B.C.
11.	Ayodhya Distt. Faizabad	Upper level of NBPW phase	Circa 3rd B.C. - 1st cent. A.D.
12.	Sohagaura Distt. Gorakhpur	III III	Maurya/Maurya Sunga Sunga (S. N. Chaturvedi/G. C. Pande).
13.	Masaon Distt. Gazipur	IB II	Maurya Sunga

14.	Jajmau Distt. Kanpur	I	Maurya
15.	Hulaskhera Distt. Lucknow	I II	c. 600 B.C. - 200 B.C. c. 200 B.C. - A.D. 200.
16.	Mathura Distt. Mathura	II III	Maurya, c. 400-200 B.C. Sunga, c. 200 B.C. - end of 1st cent. B.C.
17.	Sonkh Distt. Mathura	II	Maurya - 100 B.C.
18.	Hastinapur Distt. Meerut	III IV	Early 6th cent. B.C. - early 3rd B.C. Early 2nd B.C. - Early 3rd A.D.
19.	Allahapur Distt. Meerut	IB	Late Maurya
20.	Alamgirpur Distt. Meerut	III	Maurya
21.	Kasri Distt. Meerut	III	Maurya Sunga.
22.	Hulas Distt. Saharanpur	III IV	Maurya Sunga-Kushan
23.	Manwan Distt. Sitapur	I II	N.B.P.W. Sunga-Kushan
24.	Ranikat Distt. Tehri	IIA IIb	Circa 4th - 2nd cent. B.C. Circa 2nd B.C. - 2nd A.D.
25.	Pariar Distt. Unnao	III IV	NBPW period Sunga-Kushan
26.	Prahladpur Distt Varanasi	IB IC	C. 500 B.C. - 200 B.C. c. 200 B.C. - beginning of christian era.
27.	Takiapur Distt. Varanasi	I II	NBPW period Post-NBPW period.
28.	Sarai-Mohana Distt. Varanasi	IB IC	Early NBPW period Late NBPW period
29.	Rajghat Distt. Varanasi	IC II	c. 400 B.C. - 200 B.C. Sunga
30.	Oriup Distt. Bhagalpur	I II	Maurya Sunga-Kushan
31.	champa Distt. Bhagalpur	IB IC	Maurya Sunga
32.	Sonepur Distt. Gaya	IV / II V	Maurya / Maurya-Sunga Sunga / A. S. Altekar & V. K. Misra / B. S. Verma.
33.	Balirajgarh Distt. Madhubani	I	c. 200 B.C. - A.D. 200
34.	Vaisali Distt. Muzaffarpur	II III	c. 600 B.C. - 200 B.C. c. 200 B.C. - A.D. 200.

35.	Chandahadih Distt. Muzaffarpur	I II	Maurya Sunga
36.	Katragarh Distt. Muzaffarpur	I II	Maurya Sunga
37.	Kolhua Distt. Muzaffarpur		Maurya
38.	Pataliputra Distt. Patna	I II	Maurya (c. 600-150 B.C.) Sunga (150 B.C. - A.D. 100)
39.	Rajgir Distt. Patna	II III	c. 500 B.C. - 200 B.C. c. 1st cent. B.C.
40.	Chirand Distt. Saran	II/III III	Maurya / Maurya-Sunga Sunga / B. S. Verma / B. P. Sinha
41.	Buxar Distt. Shahabad	I	Maurya-Sunga
42.	Purana Qila New Delhi		Maurya Sunga
43.	Malhar Distt. Bilaspur	I	c. 400 B.C. - A.D. 200
44.	Tumain Distt. Guna	I II	Maurya Sunga
45.	Tripuri Distt. Jabalpur	I / I II / II III	c. 500-300 B.C. / 500-300 B.C. c. 300-100B.C. / 300-100 A.D. c. 100B.C. - A.D. 200 / M. G. Dixit / K. D. Bajpai
46.	Apsad Distt. Nawadah	I	Sunga
47.	Eran Distt. Sagar	II A II B	Maurya Sunga
48.	Ujjain Distt. Ujjain	I II	N.B.P.W. period Late N.B.P.W. period.
49.	Kayatha Distt. Ujjain	IV V	Maurya Sunga
50.	Nagda Distt. Ujjain	III	Maurya
51.	Dangwada Distt. Ujjain	II III	Pre Maurya-Maurya Sunga-Kushan
52.	Besnagar Distt. Vidisha	II III	Maurya Sunga
53.	Noh Distt. Bharatpur	IV V	Early 6th - 3rd cent. B.C. Early 2nd B.C. - A.D. 300.
54.	Jodhpura Distt. Jaipur	IV V	Maurya Sunga-Kushan
55.	Ahar Distt. Udaipur	II	Maurya-Sunga
56.	Ruper Distt. Ambala	III IV	Maurya c. 2nd B.C. - 6th cent. A.D.

57.	Sugh Distt. Ambala	IB. II	Maurya (c. 500-100 B.C.) (c. 100 B.C. - A.D. 500)
58.	Sanghol Distt. Ludhiana	III IV	Maurya Sunga
59.	Autha Distt. Gurgaon	II	Maurya
60.	Daulatpur Distt. Karnal	III (Phase I)	NBPW period.
61.	Raja-Karan-Ka-Qila	I	c. 400 B.C. - 100 B.C.

## INTRODUCTION

THE HISTORICAL account of the period of our study is more or less based on literary and epigraphic material. Although the art and numismatic evidences have been taken into account earlier, the study has been confined only to their appreciation and technicalities. But such a study now needs a thorough revision and restructuring in all aspects, except political history, in the light of the rich archaeological material brought to light through various excavations in different parts of the country. The excavations provide ample evidence of the actual material life of the people of the period. Literary accounts often fail to provide a true picture of the day to day life as sometimes they are based either on the fancy of their authors or in some cases they are exaggerated or speculative and thus the total picture remains incomplete or blurred. Moreover, the literary records do not touch all aspects of society as they are written with a particular motive.

It is surprising that historians have not taken pains to rewrite the history of the people in real perspective in view of these findings which have been accumulating for long, particularly after Independence. The excavations at Hastinapur, Kauśāmbī, Atranjikherā, Rājghāt, Śrāvastī, Sonkh, Ahichchhatra, Ayodhya, Rājgir, Ujjain, Besnagar, Purānā Qila, Noh etc. have brought to light objects of immense value which were actually handled and used by the contemporary people. Remains of structures and defences provide a full glimpse of the layout of their towns and habitations. Their armaments and objects of entertainment provide different facets of life from warfield to pleasure moments. Mode of transport, dress and ornaments are not only depicted in the sculptures or in terracottas but sometimes actual remains of these items have been picked up by the archaeologists.

Arthaśāstra provides an account of the defences of the period but the picture remains hazy in the mind of the reader. However, if it is read in the light of the actual remains as found at Hastinapur, Atranjikherā, Śrāvastī and other places, the actual layout becomes quite evident. Thus, if an attempt is made to study the archaeological remains in the light of literary evidence, including foreign accounts, we would be able to peep into the actual life of the people of remote past.

The present study is an attempt in this direction. Efforts have been made to collect and sort out all such materials which have been collected through excavations and explorations (see map of the sites) from different published reports as well as by examining and studying the actual finds housed in different museums and universities. Sculptural and terracotta specimens displayed in museum galleries as well as in reserved stocks have been re-examined to recapitulate the minute details of the dress and ornaments depicted therein. The hairdo and

head dresses and other minor things illustrated by the artists threw a flood of light on the refined taste of the people of the period.

The present study therefore, deals with all aspects as precisely as possible without leaving any significant feature related to social and economic life, art and architecture, arms and armaments. The ritualistic objects and other art depictions have been carefully handled to bring out the salient features of religious beliefs. If on the one hand architectural remains including fortifications have been discussed, attention has been paid to the study of pots and pans used in daily life. The factors responsible for urbanization have been analysed taking into account the plants and cereal remains found during excavations as well as the actual agricultural tools. The craftsmanship of metal and the cloth industry of the period have been discussed at proper places.

### Political Background

In 326 B.C. the flood of Macedonian invasion had overwhelmed the Indian states of Punjab and was threatening to burst upon the Madhyadeśa. It was Chandragupta Maurya who made India free from the Macedonian yoke and brought a greater part of the country under one sceptre and became the founder of the Maurya dynasty.<sup>1</sup> Born in comparatively humble circumstances, he lived to guide the destiny of a great empire which could repulse the onslaught of one of the most powerful Hellenistic monarchs of the time and which was, according to a common estimate of its extent, the age old dream of one India actualized nearly fully as a political fact.<sup>2</sup> In some late Buddhist works he is said to have been the son of a chief (rājā) of Moriya Nagar (Pippahalivana?). He overran a large part of India possibly as far as northern Mysore and in *circa* 305-4 B.C. He fought a war on the Indus with Seleucus Nicator, King of Syria.

While Alexander was carrying through Punjab, emperor Dhanananda of Nanda dynasty was ruling over the rest of northern India. After the withdrawal of Alexander, Chandragupta had overthrown the Nanda with the help of Kautilya, also called Chanakya or Vishnugupta, son of a brahmana of Taxila.<sup>3</sup> Traditional accounts of the conflict between Chandragupta and the last Nanda king are preserved in *Milindapanho*, the *Purānas* and other ancient texts. The *Milindapanho*<sup>4</sup> gives an exaggerated account of the defeat of Nanda troops.

Chandragupta (*circa* 324-300 B.C.) ruled over a vast empire. "The Hindūkuś now became the frontier between Chandragupta's provinces of Paropamisadae to the South and the Seleucid province of Bactria to the North."<sup>5</sup> Thus, the first emperor of India got possession of a real scientific frontier. He maintained friendly relations with the Greeks. Seleucus received gifts from him. His envoy Megasthenes resided for a considerable time at the court of Pataliputra.<sup>6</sup> According to Plutarch he subdued the whole of India with an army of 600,000 men. This is supported by other evidences. It is also evident from a comparison of the fragments of Megasthenes, the Greek ambassador at his court, with *Arthaśāstra*, attributed to Kautilya, that the Mauryan empire had developed a highly organised bureaucratic administration which controlled the whole economic life of the state.<sup>7</sup> According to Aśoka's inscriptions he made only one conquest — that of Kalinga. But the widespread distribution of Aśoka's inscriptions and other evidences show that his empire extended upto Mysore in the south and beyond the natural boundaries of India upto the borders of Persia in the north-west, thus making it evident that the greater part of Aśoka's empire was the creation of his grandfather. Aśoka's father Bindusāra is not known as a conqueror.<sup>8</sup> Besides the imperial provinces, Maurya India included a number of partially autonomous territories. Arrian refers to people who were autonomous



and cities which enjoyed democratic government.<sup>9</sup> The thirteenth rock edict of Aśoka also mentions autonomous nations or peoples on the western border in addition to those named specifically like Kamboja.<sup>10</sup>

According to Strabo, the son and successor of Sāndrocottos (Chandragupta) was Allitrochades.<sup>11</sup> We owe to the Purāṇas the name Bindusāra, which is generally adopted. We know very little about Bindusāra's reign (circa 297-273 B.C.) but he maintained the empire intact. He had friendly relations with the Greek rulers of the west, for he was in touch with Antiochus I, the seleucid king of Syria. Bindusāra requested of the Greek king a gift of figs and wine together with a sophist. Antiochus I sent figs and wine but replied that the Greek philosophers were not for export.<sup>12</sup>

Bindusāra was succeeded by his son Aśoka. Available records show that Aśoka was crowned four years after his accession to the throne in circa 269 B.C.<sup>13</sup> He is the first king in Indian history whose original personal records are available in the form of fourteen rock edicts, thirteen minor rock edicts, seven pillar edicts and some on rock, pillars and walls of caves. They are written in Kharoṣṭhi and Brāhmī.<sup>14</sup>

Aśoka (circa 269-231 B.C.) ruled over a vast empire which he inherited. During the first thirteen years of his reign Aśoka followed the traditional Maurya policy of expansion within India and of friendly co-operation with foreign powers. Aśoka's friendly attitude towards non-Indian powers is proved by the exchange of embassies and the employment of Yavana officials like Tushaspa.<sup>15</sup> After the eighth year of his reign he added Kalinga to his empire. It was one year after this war that Aśoka embraced the Buddhist religion. For one year he was lukewarm. But later he became fully dedicated to Buddhism. He showed the genuineness of his devotion by allowing his son and daughter to enter the religious order.<sup>16</sup> He also sent missionaries to different parts of India and Ceylon, Western Asia, Egypt and Eastern Europe.<sup>17</sup>

The post-Aśoka age is a dark period in Maurya history. Aśoka's empire was too big and his successors were unable to keep it intact. It resulted into the disintegration of the empire. The provinces fell off one by one. Foreign barbarians began to pour across the north-western side of the empire, and the proud monarchs of Pāṭaliputra and Rājagriha had to bow before the provincial powers of 'Andhras' and Kalinga.<sup>18</sup>

Unfortunately, Megasthenes and Kauṭilya have not left any account of the later Mauryas. Only scanty data are available from one or two inscriptions and a few Brahmanical, Jain and Buddhist works.<sup>19</sup> Aśoka's inscriptions refer to only one of his sons, viz. Tivara, but literary sources mention three—Mahendra, Kuṇāla and Jālauka.<sup>20</sup> *Vāyu Purāṇa* refers to Kuṇāla as the successor of Aśoka while *Rājatarāṅgiṇi* mentions Jālauka as Aśoka's successor in Kāśmīr. *Matsya Purāṇa* and *Viṣṇu Purāṇa* agree on Daśaratha, the grandson of Aśoka as his successor. Inscriptions also support the reality of Daśaratha. Among these are three short dedicatory inscriptions incised on the walls of rock-cut caves on Nāgārjuni hills speaking of their dedication to Ajivaks by Daśaratha.<sup>21</sup>

Thus different sources give different names and numbers of Mauryan kings who ruled after Aśoka. However, among the authentic rulers<sup>22</sup> who succeeded Aśoka are Daśaratha, Samprati both being the grandsons of Aśoka, Saliśuka and Bṛhadratha.<sup>23</sup> In circa 184 B.C. the last named sovereign was treacherously assassinated by his brāhmana general Puṣyamitra who thus brought the illustrious house of the Mauryas to an end after a continuous reign of 137 years.

After the downfall of the Mauryas, the Yaudheyas, the Mālavas, the Arjunayanas and other democratic constituents fought against foreign invaders but did not succeed.<sup>24</sup>

Paṇini<sup>25</sup> traces Puṣyamitra belonging to Śungas of the Brāhmaṇa clan of Bharadwāja. But in view of the conflicting statements in the *Mālavikāgnimitram*, the Purāṇas etc. this view cannot be taken as certain.<sup>26</sup>

Puṣyamitra's dominion covered only the central portion of the old Maurya empire, including the cities of Pāṭaliputra, Ayodhya, Vidiśa and, according to Divyavadāna, Jalandhara and Śākala in Punjab. His capital continued to be Pāṭaliputra. According to *Mālavikāgnimitram* Vidiśa was governed by prince Agnimitra, probably as his father's viceroy.<sup>27</sup> Another viceroy may have governed Kośāla. The possible existence of this viceroyalty is attested to by an inscription<sup>28</sup> at the door of a temple at Rānupali (Ayodhya) which records the erection of a *Ketana* by a *Kośāladhipa* who was the sixth descendant of Senāpati Puṣyamitra.

The undoubted historical events of Puṣyamitra's time were the Vidarbha war and two horse sacrifices performed for proclaiming his double victory over the Greeks.<sup>29</sup> Patañjali, a contemporary of Puṣyamitra, records in his *Mahābhāṣya* an extensive war like activity of the Greeks in India. It says *Arunad Yavanah Śaketam*, *Arunad Yavanah Madhyamikam*, i.e., the Greeks besieged Śaketa and Madhyamika, perhaps a place near Ayodhya and modern Nagari near Chittoḍa. It is not impossible that the internecine strife of the Greeks, commencing with the revolt of Eucratides against Demetrius in *circa* 170 B.C. gave Puṣyamitra an opportunity to recover some of the lost provinces and carry his arms as far as Indus.<sup>30</sup>

Śungas were the supporters of Brāhmaṇism and were intolerant towards Buddhism. The above mentioned two sacrifices are regarded by some scholars as a Brāhmaṇical act.<sup>31</sup>

Puṣyamitra died in *circa* 151 B.C. and was succeeded by his son Agnimitra (8 years), Agnimitra's successor was Vasujyeṣṭha or Sujyeṣṭha (4 years) who is probably identical with Jethamitra of the coins.<sup>32</sup> The next king Vasumitra (10 years) was a son of Agnimitra. During the lifetime of his grandfather he had led the imperial army against the Yavanas and defeated them on the Sindhu which probably formed the boundary between the empire of Puṣyamitra and the Indo-Greek territories in Mālawā. Vasumitra's successor is called Bhadraka (Odruka, Ardraka etc., 2 or 7 years). An inscription at Besnagar records the erection of a Garuḍa pillar by a Yavana named Heliodorus as a Greek ambassador to the Indian king named Bhāgbhadra. This Bhāgbhadra was most probably synonymous with Bhadraka. Nothing in particular is known about three immediate successors of Bhadraka. However, the Purāṇas record Pulindaka (3 years), Ghośa (3 years) and Vajramitra (7 or 9 years) as the respective successors of Bhadraka.

The next in succession, the ninth Śunga king Bhāgavata, who ruled for 32 years, also erected a second Garuḍa pillar at Besnagar in his twelfth regnal year. It shows that the later Śungas had friendly relations with the Greek sovereigns of western Punjab.<sup>33</sup> According to *Purāṇas* the last Śunga king was Devabhūti or Devabhūmi who ruled for 10 years. Thus altogether ten Śunga kings ruled for a period of 112 years from *circa* 184 to 72 B.C.<sup>34</sup>

The *Harsacharita* of Banabhaṭṭa informs us that Devabhūmi was the victim of a conspiracy organised by his Brāhmaṇa minister Vāsudeva of the Kaṇva family who had assassinated him through a slave girl disguised as queen in *circa* 72 B.C. Vāsudeva became the founder of a new dynasty known as Kaṇva or Kanvayan. It had only four rulers who ruled altogether for a period of 45 years till *circa* 27 B.C. The other three members of the dynasty were Bhūmimitra, Nārāyaṇa, and Suśarmaṇa. The actual power of the Kaṇvas was probably confined to central India and the contiguous regions. The end of this dynasty came as referred to above in *circa* 27 B.C. when the last of the Kaṇvas was overpowered by Simuk Sātavahana. Though the Sātavahanas never interfered in the politics of the north, their triumph gave the death blow to

the political fabric which was already in the final stages of decay. Thus the political unity of northern India disappeared.<sup>35</sup>

Subsequent history is that of successive waves of invasions leading to the establishment of foreign ruling dynasties in the north-west and a number of small states emerging on the ruins of the empire in the Gangā valley and the adjoining areas.

So with the brief study of the political situation in India during the period under study it is clear that the period between 3rd century B.C. and the beginning of the Christian era witnessed periods of long political stability as well as brief periods of revolt, establishment of new dynasty and succession of weak and incompetent kings. The period of political stability which started with the foundation of the Maurya dynasty would have provided congenial atmosphere for the social and economic development of society as a whole and betterment of the citizen in particular. During this period, under royal patronage various arts developed to the height of excellence and economic prosperity was witnessed. Municipal arrangements were highly satisfactory, irrigation work was well developed in distant parts of the country. They also maintained diplomatic relations with outside countries like Persia, Greece, China and Central Asiatic powers.

After the death of Aśoka, political situation in the Maurya empire rapidly declined and a succession of seven incompetent kings in 50 years one after the other created chaotic conditions in the country.

Obviously, such political conditions would have not only stopped the royal patronage of art and artisans but would have also retarded the progress and development of various arts and crafts. In society, the common man was faced with economic insecurity together with hardships caused by the frequent movement of the royal army and increasing pressure of taxation on his already decreasing income.

As far as the Śunga dynasty is concerned, only the reign of Puṣyamitra Śunga can be mentioned as a long spell which lasted for about 30 years. Puṣyamitra Śunga's period might have stopped the process of decline but it can be surmised that during this period he maintained the social and economic conditions of society which he had inherited. The successors of Puṣyamitra Śunga also did not have an easy time and were faced with revolts and conspiracies almost all the time. The result was rapid dethronement of kings and consequent instability.

During this period of ups and downs we have tried to concentrate on the material life as revealed through archaeological finds dealing with the development of art, architecture, dresses, clothing, ornaments used by different sections of society and the general economic condition of the masses.

## NOTES & REFERENCES

1. R. C. Majumdar, *The Age of Imperial Unity*, pp. 54-55.
2. J. S. Negi, *Groundwork of Ancient Indian History*, p. 193.
3. H. C. Raychaudhuri, *Political History of Ancient India*, pp. 268-269.
4. *SBE*, vol. XXXVI, p. 147.
5. J. S. Negi, *op. cit.*, p. 201.
6. *Arrian's Indica*, v. 6, translated by Schwanbeak, p. 33; cf. E. J. Rapson, *Cambridge History of India I*.
7. A. L. Basham, *The Wonder that was India*, pp. 48-55.
8. R. C. Majumdar, *op. cit.*, p. 61.
9. Chinnock, *Arrian*, 413 cf. H. C. Raychaudhuri, *op. cit.*, p. 288.
10. *HIJQ*, 1931, p. 631.

11. J. W. McCrindle, *Ancient India as described by Megasthenes and Arrian*.
12. A. L. Basham, *op. cit.*, pp. 48-55, cf. K. P. Jayaswal; *JBORS* (March 1916), vol. II, pt. I, p. 79.
13. H. C. Raychaudhuri, *op. cit.*, p. 302.
14. R. C. Majumdar, *op. cit.*, p. 89.
15. H. C. Raychaudhuri, *op. cit.*, p. 304.
16. D. R. Bhandarkar, *Aśoka*, pp. 72-73.
17. E. J. Rapson, *op. cit.*
18. H. C. Raychaudhuri, *op. cit.*, p. 349.
19. *Ibid.*
20. R. C. Majumdar, *op. cit.*, p. 89.
21. *Ibid.*
22. Cf. J. S. Negi, *op. cit.*, p. 255.
23. Cf. *Harshacharita*, edited by Cowell & Thomas.
24. E. J. Rapson, *op. cit.*
25. *Panini's Ashtadhyayi*. (IV. I. 117), edited by Shankar Ram Sastri.
26. H. C. Raychaudhuri, *op. cit.*, p. 370.
27. *Malvikagnimitram*, Act V, pp. 370, 391; cf. H. C. Raychaudhuri, *op. cit.*, p. 371.
28. *JBORS*, X (1924), p. 203; XIII (1927), facing p. 247; cf. *IHQ* (1929), 602 f.; cf. *Epi. Ind.*, XX, 54 ff.
29. R. C. Majumdar, *op. cit.*, p. 98.
30. J. S. Negi, *op. cit.*, p. 293.
31. H. C. Raychaudhuri, *op. cit.*, p. 388.
32. John Allan, *Catalogue of Indian Coins in Ancient India*, XCVI, p. 74.
33. H. C. Raychaudhuri, *op. cit.*, p. 393-94.
34. R. C. Majumdar, *op. cit.*, p. 98.
35. J. S. Negi, *op. cit.*, pp. 295-297; Cf. H. C. Raychaudhuri, *op. cit.*

## TWO

# SOCIAL LIFE

### A. Dress and Drapery

INDIAN people had a fondness for good dress from very early times. References to Indian robes worked in gold, ornamented with precious stones<sup>1</sup> and scented with different fragrances<sup>2</sup>, in ancient literature, make it evident that love of finery and ornaments went side by side with the simplicity and lightness of dress in those times. The earliest archaeological evidence of the use of woven and sewn dresses in north-eastern India are furnished by sculptures and terracottas of the Maurya period found from various sites.<sup>3</sup>

Literary accounts confirm the archaeological evidence. The *Arthaśāstra* of Kauṭilya describes the materials of the dresses.<sup>4</sup> The accounts of Megasthenes and Arrian make it clear that fine dresses were worn by people during the Maurya period.<sup>5</sup> Megasthenes says that the wild tribes clothed themselves in skins and the philosophers in muslin.<sup>6</sup>

The types of dresses represented on the terracottas and the sculptures ascribed to the Maurya period show that people were skilled in the art of weaving and stitchery.<sup>7</sup> With the advent of the Śakas from Central Asia and the Greeks from Europe new traits were noticed in the Indian dresses. It is said that the Śakas introduced the coats and trousers and the Greeks, the tight fitting jerkin and cloak, and the traditional turban was replaced by various kinds of caps.

Ancient literature is full of references to needles (sūchi)<sup>8</sup>, scissors (sathaka)<sup>9</sup> and thimbles (anguśtāna)<sup>10</sup>. Sharp needles find mention in the Jātakas<sup>11</sup> and Patañjali's *Mahābhāṣya*.<sup>12</sup> In the *Arthaśāstra*, a full chapter deals with the duties of the superintendent of weaving.<sup>13</sup> It seems that during Maurya and subsequent periods cotton was much in demand for manufacturing cloth and as the Greeks did not know how cotton was produced they thought it to be the wool growing on trees.<sup>14</sup>

The costumes of Indians as described by Arrian<sup>15</sup> remained almost the same till the end of the first century B.C. It is supported by the monolithic Yakṣha statues and Yakṣhiṇi figures from Besnagar and Didarganj which have been ascribed to Maurya period, the bas-reliefs of Bharhut ascribed to the last quarter of the second century B.C. and the bas-reliefs of Sānci which belongs to the 1st century B.C.<sup>16</sup>

#### 1 MALE DRESS

Numerous terracottas found from various sites<sup>17</sup> like Kadam Kuān, Bakarganj Bhikhana-pahāri, Golakapur, Bulandibagh, Kumrahar, Buxar, Vaiśālī, Belwā, Bhitā and Kauśāmbī as well as sculptures of the period depict various kinds of male dresses. On the basis of these,

male figures can broadly be divided into three groups:<sup>18</sup> nude figures, those with upper parts bare and lower parts clothed, and those with fully clad bodies.

The male dress generally consisted of two garments — an upper and a lower one. The head was covered by a turban. Such evidences come from Bodhgayā, Bharhut and Sāncī reliefs as well as from the terracottas found at various sites of Northern India.<sup>19</sup>

### a Upper Garment

The upper garments of the period mainly included the *uṣṇīsa* (head gear), *uttariya* (scarf) and the *kañcuka* (tunic).

#### i Uṣṇīsa (Turban)

Turbans were worn by men. Only foreigners and Tirthankaras were shown bare headed. The turbans were of two kinds. In the lighter turban the hair was gathered in top-knot and the two bands of the scarf crossed exactly above the middle of the forehead, also covering the knot to which both ends of the scarf were tied. The light turban left much of the hair exposed (see Plate XVIII-A). In the heavier turban, the whole head was covered.<sup>20</sup> It was always associated with a protuberance (see Plates I, II). The lighter turbans were normally worn by attendants while the heavier turbans were worn by persons of rank.<sup>21</sup> A relief on the Prasenajit pillar at Bharhut depicts a man holding with his left hand the crest and with his right hand the long falling cloth of the turban.<sup>22</sup> It throws ample light on the manner of wearing the turban. The turban specially is to be studied to identify a royal person in a group of people. Sometimes their heavier turbans were distinguished by elongated rolled ornamental pieces decorated with beaded or pearled strings, gems and other precious stones.<sup>23</sup> Their crests in front could also vary in forms. It could be conch-shell shaped or cylindrical. On a Sāncī panel depicting *Viśvantara Jātaka*,<sup>24</sup> the king Viśvantara is wearing a turban with conch-shell shaped crest. It was ornamented with a beaded or pearled string. An early Yakṣha from Akṭha near Samath<sup>25</sup> wears a turban. The turban is smaller than on most Yakṣha images and is placed high on the crown of the Yakṣha's head. An image of Sankarṣaṇa now in Lucknow museum is also turbaned.<sup>26</sup> Yakṣhas on the northern gateway of Sāncī wear turbans with pear shaped top-knot over the head.<sup>27</sup> On the western gateway one Yakṣha is shown wearing a turban with a ball like crest ornamented with lotus petal pattern.<sup>28</sup>

#### ii Cap

Caps of different shapes and variations, both plain and decorated, although rather few in number, were also used. They were conical, domical or cylindrical in shape. Some were feathered, knobbed and truncated. Sometimes they were decorated with rows of prominent studs (see Plates III-8, 12, and IV-8).<sup>29</sup> A curly headed man fighting a lion, depicted on a corner pillar of Stūpa no. 2 of Sāncī, wears a round cap decorated with round beads along the edges<sup>30</sup> (see Plate XVIII B).

#### iii Fillet

The fillet or a thin band of cloth was wrapped round the forehead to prevent the hair from falling over the head (see Plates III-10, IV-7). In Sāncī sculptures it has been depicted in scenes like a man fighting with a crocodile, six persons on orchestra, and the short statured and pot-bellied figures.<sup>31</sup> A *dwārapāla* on the western gateway, south pillar of Sāncī wears a decorated fillet (see Plate CXV-A). We may recall that the fashion comes right from Indus

Valley civilization.<sup>32</sup> Sometimes a broad band around the face was attached with the turban of a soldier or a guard (see Plate CXV-B).

#### iv Uttariya

Above the waist the body was represented quite bare except for a scarf which was called *uttariya*. It was used by kings, nobles and persons of high social status as shown in sculptural representations of Sāncī, Bharhut and Bodhgayā. It was worn in several ways:<sup>33</sup> (1) It was wrapped by passing it over one shoulder and below the armpit of the other (see Plate XCVIII-B). (2) Sometimes both ends came from the back through the armpits and passed over the shoulders, falling down at the back. (3) Both ends coming from the back made a cross on the chest and passed over the shoulders hanging at the back. (4) Sometimes it was wrapped round the neck and went down at the back from a shoulder passing through the armpit of the other side and again fell down at the back over the same shoulder. Thus one end of it remained at the back and the other end in front. (5) With a slight difference, the scarf flying at the back, was also used (see Plate XVIII-A). (6) In another style the knot below the neck was made of two bands coming from the back over the shoulders. (7) Sometimes both ends came from the back through armpits and hung on both hands in front (Plate CVII-A).

A Yakṣha from Mathurā is shown with folded *dupattā* which is tied round his chest with ends more or less dangling<sup>34</sup> (see Plate LXXI-B). Two Yakṣhas from Patnā also wore it in *upavīta* fashion.<sup>35</sup> Some of the *uttariyas* bear floral designs but mostly they are shown plain. Paṇini has referred to this garment as *brhatika*,<sup>36</sup> a long piece of cloth reaching below the waist and sometimes down to the ankles. References to a bejewelled and embroidered *uttariya* are also found in Sanskrit works of Kalidasa<sup>37</sup> and Śūdraka.<sup>38</sup>

#### v Kancuka (Tunic)

Though not very frequent, certain examples of sewn upper garment have been found. It has been referred to variously in ancient Indian literature. *Rāmāyaṇa*<sup>39</sup> and *Amarakoṣa*<sup>40</sup> mention it as a dress of soldiers. Curtius calls it a cotton garment.<sup>41</sup> In the time of the Buddha, it was worn by both males and females.<sup>42</sup>

In the sculptures of Bharhut the tunic has been represented only twice. On the outside of the lower architrave of a gallery a scene is represented in which a royal figure is depicted worshipping a Bodhi tree. The attendant wears a full sleeved jacket whose sides at the ends are rounded. The collars, sleeves, cuffs and the open ends appears to be decorated with ribbon. In another depiction Sun god also wears a tunic with full sleeves reaching upto mid-thigh. The open sides on the thighs are curved. It is tied by cords at two places.<sup>43</sup> A full sleeved tunic, reaching below the navel is worn by every member of an orchestra party depicted on the northern gateway of Sāncī Stūpa.<sup>44</sup> A man fighting with a crocodile depicted on the northern gateway is wearing a full sleeved and tight fitting tunic. A similar example is also found on pillar no. 23b of stūpa no. 2 with slanting plaits. Half sleeved tunics are shown on the western gateway of Sāncī depicting an elephant rider and some lion riders. One embroidered tunic with very short sleeves is shown on the ground balustrade of stūpa no. 2<sup>45</sup> (see Plate XVIII B).

A terracotta plaque from Pataliputra now in Patnā Museum depicting Surya standing on a chariot drawn by four horses shows him wearing a half sleeved tunic.<sup>46</sup> Another terracotta figure of a man squatting, with knees drawn up, found at Bhitā<sup>47</sup>, wears a sleeved coat like the modern *choga* which is open but provided with loop and knot to fasten it across the chest.

## b. Lower Garment

### i Dhoti

The lower garments include *dhoti*,<sup>48</sup> *kaṭivastra*, trousers and *tahband*. The *dhoti* was primarily the main lower garment of both men and women and there are numerous cases where it constitutes the only garment on the body. Sometimes it was worn in *sakachchha* fashion, i.e., one end rolled around the waist and the other was passed between the legs and tucked up at the back as shown in Plate LXVII-A from Bodhi Gaya. At Sanchi<sup>49</sup> a Yakṣha figure standing at the top of the northern gateway, sitting people in a panel on the western pillar of the northern gateway and the merry-making Māra's armymen on middle architrave of the northern gateway are examples of *sakachchha* mode of *dhoti* wearing. Common people wore it reaching up to the knees while people of higher classes wore it reaching midway to the ankles. The excess of *dhoti* was shown hanging zig-zag in front. Only sometimes one part of *dhoti* was wrapped round the waist and the other part passed over the left arm (Plate CXV-A) or occasionally wrapped over the left shoulder. In Bharhut sculpture the *dhoti* universally reaches below the knees and down to the mid-leg. It is remarkable that *dhotis* were absolutely plain without any decoration on them.<sup>50</sup> In the Yakṣha statue from Mathurā, the *dhoti* appears without border. It is broad enough to touch the ground at the back of the figure, and over the buttocks it sweeps smoothly as no hind pleats are evident there.<sup>51</sup> At least one edge of the garment appears to have an ornamental fringe. An early Yakṣha from Akṭha near Sāranātha<sup>52</sup> wears a *dhoti* which is completely diaphanous and without folds. A loose end falls between the legs and is tucked at the back over a flat strap, which secures the *dhoti* around the waist. As far as terracotta figurines are concerned, sometimes traces of pleats are laid together in front, reaching beneath the knees and to the ground at the back. This mode of wearing *dhoti* is also noticed on the figures of Yakṣhas from Patnā.<sup>53</sup> In one of the terracotta figures it has been shown affixed and tucked up towards the left side (Plate XIX-A), while in the other the folded cloth has been looped between the thighs.

### ii Kaṭivastra or Nivi

In order to keep the *dhoti* in place, a long cloth was used as a belt over the upper edges of the *dhoti* tied with a knot, its two ends falling in front. This cloth band was called *nivi* or *kaṭivastra*.<sup>54</sup> It was either made of a narrow band of embroidered<sup>55</sup> or plain<sup>56</sup> cloth with sufficiently long fringes at both ends. It was also made of loose strings with ornamental tassels at both ends<sup>57</sup> or simple cords without tassels.<sup>58</sup> The *kaṭivastra* was mostly knotted in front. The front knotting of the waist band can be seen in Bharhut sculptures (Plate LXXIII-A, B) in the figure of a Yakṣha on the northern gateway, inner faces of east and west pillars and a *dvarapāla* on the eastern gateway, south face of north pillar at Sanchi.<sup>59</sup> The flat belts of Balarāma<sup>60</sup> and Parkham Yakṣha<sup>61</sup> (Plate LXXI-A) have been elaborately knotted at the centre and their both ends dangle straight between the legs reaching the knees similar to that of Kubera (Plate XCVIII-B). Sometimes it was knotted on one side of the waist either to right or left (Plates XIX-A, XCVII) as shown on false capitals of the southern gateway of Sanchi.<sup>62</sup> Foot soldiers and attendants have been shown with a thick cord like cloth wrapped round the waist in two three, four or even more layers reaching upto the breast as can be seen on the lower architrave of the southern gateway, south pillar of the western gateway and lower architrave of the northern gateway of Sanchi Stupa.<sup>63</sup>



### iii Trousers

Literary evidence for the use of trousers is found as early as Maurya times. A reference to *samputika* in the *Arthaśāstra* confirms the use of trousers in the Maurya period.<sup>64</sup> Mouchandra identifies the word *samputikā* with *sūtranaddha* and also with the later term *suthanā*,<sup>65</sup> while Agrawala terms it as *svasthāna*.<sup>66</sup> A representation of trousers is seen on one of the animal riders represented on the south pillar of the western gateway of Sānchi Stūpa.<sup>67</sup> Some examples of the halfnicker or *janghiyā* are also shown on Sānchi sculptures. They are on the lower false capital of the eastern gateway.<sup>68</sup>

### iv Tahband

The members of the orchestra party on the west pillar of the northern gateway of Sānchi are wearing a *tahband* like piece of cloth<sup>69</sup> (Plate XIX-B). Marshall describes this garment as *taenia*.<sup>70</sup> Whether it was a sewn garment is doubtful. A very unusual lower dress is worn by a curly headed man depicted on the ground rail pillar at Sānchi; he is defending himself from the attack of a lion with the help of a shield.<sup>71</sup> He is wearing a plaited short skirt like dress. Mouchandra has suggested the word *chalanika*<sup>72</sup> for it.

### c. Footwear

Nearchus tells us that Indians 'wear shoes made of white leather, and these are elaborately trimmed, while the soles are variegated and made of great thickness to make the wearer seem so much the taller'.<sup>73</sup> The variety of shoes is also referred to in the *vinaya* texts.<sup>74</sup>

#### i Boots

Only a few examples of footwear can be seen in Sānchi sculpture. One of the winged lion riders is wearing high boots depicted on middle false capital of the western gateway.<sup>75</sup> Another depiction of high boots is by a man fighting with the crocodile on stūpa<sup>3</sup> of Sānchi. A man fighting with a lion is also shown wearing boots (Plate XVIII-B).

#### ii Sandals and Leggings

A close examination of sculptures and terracottas of the period under study shows that normally people did not use footwear. Only hunters and fighters sometimes wore boots or any type of footwear. At Sānchi sandals and leggings have been depicted in the scene of the dedication of a stūpa on the Northern Gateway<sup>76</sup> and a couple of goat riders on a false capital of the Eastern Gateway.<sup>77</sup> From Padrauna, in Deoria district, only feet of a stone Yakṣha statue have been found. Feet are shown with slippers resembling modern hawāi chappals.<sup>78</sup>

### d. Professional wear

#### i Soldiers' dress

In Sānchi sculptures all the four wings of army, viz. the chariots, the elephants, the cavalry and the infantry, have been depicted along with their commanders and the king. The king and other royal persons have been shown in their common dresses described before but the foot soldiers have been shown in different types of dress. Sometimes they have been shown wearing loose skirt reaching upto the knees and tied with a cord like waist band as shown on the back of the southern gateway, lower architrave, (Plate CXIV-A).<sup>79</sup>

In Mahākapi Jātaka scene on western gateway at Sānchi, a bow man and a swordsman have been shown standing on the bank of a river. Alongwith them an archer has also been depicted who is shooting an arrow at the monkey. He is wearing a long sleeved *kañcuka* (tunic). Layers of ropes make many crosses on his chest to indicate the mode of fastening the quiver at the back.<sup>80</sup> In the Śyāmā Jātaka scene, on north pillar of western gate at Sānchi, the king of Vārānasi has been shown in the dress of a warrior. He is wearing skirt, rope belt, fastened quiver and usual head-dress.<sup>81</sup> In another panel on ground balustrade of Stūpa II at Sānchi,<sup>82</sup> a curly headed man is shown defending himself from the attack of a lion. He is wearing a cap, an embroidered short sleeved tunic, a kind of kilt and big boots. He is holding a dagger in his right hand and a shield in his left hand. A peculiar head dress is worn by two bowmen riding on elephant represented on southern gateway of Sānchi stūpa. It has a round cap and a broad band attached to it and running round the face to cover ears, cheeks. Similar representations have also been found in terracotta (Plate CXV-B).<sup>83</sup> Mouchandra also says that the soldiers used *kañcuka* or tunic, *tahband* like *dhoti*, *kamarband* or belt and helmet.<sup>84</sup>

### ii Ascetics' dress

Wherever in literature or sculpture an ascetic has been represented, he has been shown or described wearing clothes made of bark or leaves of trees known as *valkala*. On a railing pillar from Mathurā (Plate XCIII-A) an ascetic appears to be wearing a lower garment made of straws. In Sānchi sculpture we find many representations of ascetics in various scenes like on south pillar of eastern gateway<sup>85</sup> and lower architrave of northern gateway<sup>86</sup> at Sānchi. In all the scenes they have been shown wearing a short *tahband* like lower garment and another piece of cloth as upper garment to cover their left shoulder and chest. A similar representation is found in Bharhut sculpture (Plate XX-A). Thus the *valkala* form of the ascetic dress has high antiquity. In the earliest literature known to us, the wife of a priest is described as putting on a garment of Kuśa grass.<sup>87</sup> Pāṇini mentions three terms for these clothes *chivara*, *chira* and *chela*.<sup>88</sup> The word *chivara* occurs frequently in Buddhist books for a monk's garb.<sup>89</sup> Rāma in the Rāmāyaṇa<sup>90</sup> and hermits in Bhasa's drama<sup>91</sup> have also been described as clad in *valkala*.

### iii Hunters' dress

Hunters represented in Sānchi sculpture have been shown wearing a short dhoti, a many layered belt and a simple turban.<sup>92</sup> In one scene on the lower architrave of the northern gateway of Sānchi, a man in this dress is carrying two haunches of antelope at the end of the pole balanced on his shoulder showing that he was returning from hunting. Another man in the same scene was holding a bow and still another a spear on his shoulder. Similarly in the depiction of the scene of 'war of relics' both on southern (Plate : CXIV-A) as well as western gateway of Sānchi, most of the warriors were shown in the above mentioned dress.

## 2 FEMALE DRESS

Generally the upper part of the female body in ancient art is shown without any garment and left bare revealing in full the bosom and the navel. A sculptor normally depicts bodily charm and beauty of form. Cunningham observes that - the artist 'purposefully omitted the folds or traces of the upper garments for the sake of displaying the different necklaces, collars and girdles'.<sup>93</sup> Altekar is also of the same view.<sup>94</sup> But it is not correct to say that the upper

garments are invariably missing in case of the female form in Indian sculpture of the time. A terracotta figure of a standing lady from Vaiśālī,<sup>95</sup> assignable to Maurya-Sunga age, wraps her whole body with her sārī. Other similar representations have also been reported from other sites like Rajghat, Mathurā, Kauśāmbī (Plate XXII-B) etc.

Examples from Bharhut sculptures also show that in more than one panel the upper part of the female figure is draped in a scarf or *uttariya* and in as many styles as in the case of the male.<sup>96</sup> Traces of sārī below the breasts of Yakṣhi chandra of Bharhut are quite evident.<sup>97</sup> Similarly another partly broken Yakṣhi figure on a corner pillar also has the traces of sari below her right breast.<sup>98</sup>

Costume of the female comprised two loose pieces of cloth. One of them covered the lower part of the body — the *dhoti*, as in the case of the males, and a loose piece of cloth serving as the upper garment.<sup>99</sup>

#### a. Lower Garment

Lower garments worn by women were of two types — the loin cloth or sārī and the skirt. The former was worn by the majority of female folk while the latter was worn by maidens and dancers.<sup>100</sup>

##### i Sārī

It appears to have been a more voluminous garment, as evident from the Didārganj Yakṣhi (Plate LXXII-A). The *dhoti* is worn without hind pleats being formed as in the case of the male Yakṣhas. At the lower extremity the female *dhoti* sweeps the floor even more than that of the male. The surplus portion is arranged in the form of front pleats<sup>101</sup> (Plates XX-B, XXIII-A, LXXII-A). Some of the terracotta female figurines of the Śunga period have also been shown wearing a sari which flows upto the ankles and is knotted at the waist<sup>102</sup> (Plates XXIII-A, LXXXIV-A and CII-A, B).

Examples of the sārī stopping just below the knees are also not wanting (Plates XXXI-A, XXXII-A, LV-A, CI-B). A Śalabhanjikā on the lower architrave of the northern gateway at Sāncī (Plate : XXV) and some women on the west pillar of southern gateway at Sāncī wear such sarees.<sup>103</sup> Some terracotta figurines, specially the one described as belle clearly shows the hind pleats associated with the wear of a *dhoti* short enough not to extend beyond the knees.<sup>104</sup> In a medallion on the ground rail pillar no. 21b of Stūpa no. 2, at Sāncī, a standing lady wears the sārī in a different style making a cross in front. She holds the falling corner of the sārī in her left hand. One terracotta female figurine from Pātaliputra wears *dhoti* clinging with a girdle on it. The ends are gathered in folds at the back and are shown fluttering on her right side. This arrangement, of *dhoti* is peculiar of the site and appears to be a local fashion.<sup>105</sup> (Plate : XXI-B).

##### ii Skirt

Das Gupta mentions a skirt like dress worn by a terracotta female figurine from Pataliputra<sup>106</sup> (Plate : XXIX-B). It is pleated on the two sides of the legs like the spread out wings of a butterfly. A few terracotta figurines of Mathurā having modelled body with moulded face also seem to wear a skirt like dress covering the body, upto the knees.<sup>107</sup> There are three such figures from Mathurā, one each in the Mathurā Museum, Bhārat Kalā Bhawan and the National Museum. It has been alleged on the basis of the literary evidence that such were the dresses for dancing girls.

### iii Waist Band (Nivi)

Normally the sari of the females was held under an ornament called the girdle (mekhala) but some specimens of the cloth waist band or nivi are also found. (Plates CI-B and CVIII-A). Females generally wear a girdle with a clasp. It may be single or multistranded. The article was so prized that some women have worn it with sari, even though the surplus portion rising from the right thigh over the bosom covers it, partially or wholly. Even maid servants have been shown wearing it (Plate-XXXII-A).<sup>108</sup> The more complex girdle of the Didārganj Yakshi (Plate-LXXII-A) adds to the volume of her opulent grace. Females in Sanchi sculpture have also tied their waist bands in different fashion keeping the knot in front, on one of the hips or on both sides of their hips.<sup>109</sup> In one case a thin richly decorated ribbon embroidered with pearl pattern on the two sides and a series of horned animal heads in the centre, is knotted in front of the girdle, with its loop falling on the left and the two loose ends in front of the legs.<sup>110</sup>

#### b. The Upper Garment

##### i Dupattā (Prāvāraka)

The dupattā or the upper cloth was worn almost in all modes as by the males, turned into a huge or neat bow either to the right or left.<sup>111</sup> This cloth, was also used for covering the head (Plate VI-4, 5, 7; XXII-B). Sometimes it was worn over the head, its corners passed over the shoulders and fell down at the back as in case of Śalabhanjika on Northern Gateway (Plate XXV-B) and Pādmavāsini Lakshmi on Southern Gateway of Sanchi stūpa,<sup>112</sup> and a mother goddess figurine from Rājghāt (Plate CV-B). Sometimes it was decorated or embroidered with a single or double row of pearls, as shown on the lower architrave of Northern Gateway of Sanchi.<sup>113</sup> The art of embroidery in India is as old as *Rigveda*.<sup>114</sup> In this style the dupattā never comes in front of the body, it always hangs at the back as shown at Sanchi.<sup>115</sup> An inscription of Śunga period on the berm balustrade of the Great Stūpa at Sanchi refers to the gift of some Indradatta, a seller of Prāvārikas.<sup>116</sup> It shows the existence of a class of the dupattā seller, known as Prāvārika in the time of the Śungas described as *dussaka* in the *Jātakas*.<sup>117</sup> The head of the women in Bharhut sculptures are always covered with veils. The head coverings of Yakshi Chanda<sup>118</sup> and Chulkoka devatā<sup>119</sup> and Sirima Devātā (Plate CI-B) are very fine. The veil of Chulkoka devatā simply falls down the back but Chanda's veil is more elaborate. At places women are also represented wearing dupattās.<sup>120</sup> The terracotta female figurine, now in Ashmolean Museum, Oxford, wears a sash passing over the right shoulder and round the hip like a bandolier consisting of abroad ribbon and four amulets. A number of strings of beads are appended to the ribbon and the amulets. One or more scarves are worn, passing over the right and left upper arms and the left shoulder and breast, terminating on a level with the knees.<sup>121</sup>

##### ii Turban or Uśnīśa

Though the turban was specially used by man, women were not excluded from its use. Although only in rare cases women have been represented wearing turbans.<sup>122</sup> In Vedic times men and women used to wear turbans alike.<sup>123</sup> In Sanchi sculpture varied ways of wearing turban among women have been shown (See Plates V-3, 6; VI-2, 3, 12; VII-1; VIII-3, 6).

In an outstanding plaque of Śunga period depicting a standing female, now in Ashmolean Museum Oxford, is shown with a bonnet enclosing hair.<sup>124</sup> It has two turban like rolls of cloth,

one on each side. Each bound has a belt and is highly ornate. The left and the larger one is made up of five vertical stripes with strings of beads at regular intervals while the right one appears to be in a single piece decorated with six rows of a flower ornament, between which are strings of beads. The latter one is stuck with five emblems indicating power or fortune. Each of the five emblems has a string of six beads hanging from the top.<sup>125</sup> Another standing female statue from Bodhgaya assignable to 1st cent. B.C. provides a very good example of turban or may be a cap. It is a typical woven raised cap or turban with flat top over plated locks. (see Plate XX). In a terracotta plaque (Plate XXXI-A), the lady sitting on the Sofa with her mate also appears to be wearing a turban slightly tilted to her left.

## B. Ornaments and Jewellery

Right from the beginning of civilization men and women have had desire to look beautiful and attractive. For this purpose they wore ornaments as well as clothes of different colours and designs, decorated their hair in different styles, used cosmetics and colours. Among all these items ornaments were of utmost importance. They varied according to the economic condition of the owner. While rich people used costlier metals and materials for their ornaments, the poor consoled themselves with ordinary ornaments made of glass, copper or even terracotta. Ornaments of bone and semi-precious stones have also been found which were probably used by all according to the decorative taste. Besides the literary accounts, the contemporary sculptures and terracotta figurines provide sufficient glimpse of various types of ornaments generally used by men and women during the pre-Christian era right from the emergence of the Mauryas. A large number of sites have also yielded copper and gold pieces of various ornaments. At Prahādpur<sup>126</sup> several copper ornaments were found associated with N.B.P.W. and a copper trinket during mid N.B.P.W. period from Campā.<sup>127</sup>

Pieces of gold and fragmentary gold ornaments were found from some of the sites. Gold leaves of different sizes and shapes were found from a treasure hunter's pit at Kolhua.<sup>128</sup> The piece of gold leaf found at Sonkh, Mathura<sup>129</sup> was bearing concentric circles. Four small pieces of gold were found from Atranjikerā<sup>130</sup> from phase D of period IV. These include two tiny pieces of indeterminate use and two circular foils. These gold foils were in brittle condition probably being the covering of an amulet forming exterior surface. One piece of foil is decorated with granulated design depicting a tree surrounded by two beaded concentric circles. The triangular motifs of granulated pattern are noticed on the border of the second circle at four or five places. The other sheet is probably the reverse side of the same amulet. A fragmentary gold necklace was found in the mud filling of period II from Vaiśālī.<sup>131</sup> A broken object of soapstone having a crescent standard was found at Baniya, Vaiśālī.<sup>132</sup> Its use could not be ascertained. Another indeterminate boat shaped object of bone with a transverse perforation was found at Śrāvastī.<sup>133</sup> It looks like a goldsmith's hammer. If so, perforation is for receiving tenon of a wooden handle. Another interesting find was a richly carved jewel box in bone from Bateśwara<sup>134</sup> belonging to period II. Taxilā<sup>135</sup> excavation yielded the largest number of gold ornaments. From the Bhir mound in Taxilā there was found a scarabaeoid of chalcedony with a winged stag drilled in achæ-menid manner.

### a. Head Ornaments

#### i. Mukṭāvālī

Both males and females of the Śunga period decorated their head dress or hair dress

with single or double strings of pearls, head bands of ribbons studded with pearls and gold beads of various designs and jewels. Ladies decorated their long tassels of hair with them. Sometimes they used to tie their hair with pearl strings passing over their forehead.<sup>136</sup>

A single string of pearls is seen decorating the long conical coiffure of the goddess *Gajalakṣmi* on the upper architrave of Southern Gateway at Sānchi, a bracket *Śalabhanjika* on Northern gateway at Sānchi,<sup>137</sup> and a lady worshipping the bodhi tree on western gateway at Sānchi. A specimen of double string tied round the head of a *Śalabhanjika* can be seen on lower architrave of Northern Gateway at Sānchi, and terracotta female heads from Rājghat (Plate XXV-A), Mathurā (Plate XXX-A, LXXX-B, LXXXI-B). The head bands consisting of one or two rows of pearls or beads with a pendant slinging from its centre were also worn by women (Plate LXXX-A).

### ii Svarna Pattikā

Gold bands with attractive designs were tied over the head by females of the time. (Plates XXV-B, LV-A, VI-3, 7, VII-2, 6) depicted on a railing pillar of Bharhut stupa is wearing a cross on her head made of two bands, (Plate XXXII-A). Another lady, on the Railing pillar no. 1 of the stūpa no. 2 at Sānchi, wraps the band which passes over her right ear and goes to the left side of her head in a slanting way. She also wears a string of pearls suspended over her ears and tucked in the middle of her forehead over which there is a big round jewel.

Males also used *Svarṇapattikā* for decorating their turbans made of gold beads or pearls. At Sānchi and Bharhut male turbans have been represented in different styles. These were shown decorated with single and double strings of pearls and gold beads of various designs. Sometimes gold bands were shown studded with pearls wrapped in folds or projections of turbans (Plates I-1, 3, 4, 10, 13; II-7, 8; III-12; IV-7; V-3). Gold bands were also used by men for securing their hair in the style of ribbons or fillets. Such a band with a large jewellery flower in the middle of the forehead flanked by a square on either side is seen on the figure of a door-keeper on the South pillar of western gateway at Sānchi.<sup>138</sup> (Plate CXV-A).

### iii Kirita

We have the representations of crown in the art of Sānchi and elsewhere. It consists of a band with upward conical projections like a row of lotus petals as in a scene on the eastern gateway of Sānchi depicting a couple of hunters — the man holding the quiver and the woman the bow. A similar crown with squarish projections is shown on the western gateway depicting lion riders.<sup>139</sup> Another example is seen on the figure of a Yakṣha on the pillar no. 9a of stupa no. 2 at Sānchi. In this ornament, a large wheel like jewel with flanking feathers is tucked over the beaded forehead band. The ram-riders on the Eastern Gateway have been shown wearing a helmet like crown with a row of lotus leaf like projections in front. Śakra, is also shown wearing crown in the scenes of Vessantara and Śyāma jatakas. Dīdārganj Yakṣhi (Plate LXXII-A) is also shown wearing a kirita with a projection in the centre. The use of Kirita was mainly limited to the males, Pātañjali has also made similar mention.

### b Ear Ornaments

During the time of Śungas, ear ornaments of various shapes and designs, generally heavy, were worn by the people (Plate IX). Their material also had a large variety. On the basis of their material they can be divided into two groups namely — artificial and natural.

The artificial group of ear-rings consisted of a large number of materials like gold, silver, copper, ivory, bone and terracotta while the natural group<sup>141</sup> consisted of ear rings made of natural flowers.

### i Artificial Ear Ornaments

These are found in a great variety. A few selected forms are discussed here.

Square ear pendants were in common use. Generally they bore floral designs. Sometimes a dome like projection on a square terrace was also made or the square ear pendant had a tapering projection below, (Plate IX-25, 26; CVII-A).

Cylindrical ear ornaments with a single or double wrapping in the middle were sometimes hung horizontally from a hook fixed in the ear. A female (Plate XXX-A) as well as a male (Plate XXXI-A) have been shown wearing it in their right ears. However, a *Yakṣha* (Plate - CXVI-B) wears it in both of his ears. Cylindrical ornaments with tapering ends were also shown in sculptures as well as terracottas. A female (Plate XXIX-B) is shown wearing a similar ear-ornament in her right ear.

Circular heavy ear-pendants having flower shapes were also used. (Plates XXI-A, B; XXII-B; XXV-B; XXVI-B; XXVII-A; LXXX-AB; LXXXI-B; LXXXIII-A, B; LXXXIV-A). Sometimes wheel like ear-ornaments were also used. Sometimes ladies wore round cartops having small circlets or dots representing most probably encrusting gems or precious stones. All these ear pendants have floral designs consisting of either conical, long or round petals with a small circle in the centre. These ear-pendants have a knob at the top, either for inserting a piece of thread or nail to fix it in the earlobe. Heavy ear-rings were also in use. One terracotta standing female belonging to Śunga period placed in the Ashmolean Museum, Oxford, wears two large circular highly decorated rolls and from each hang a number of long tassels or strings of beads.<sup>142</sup>

Of other designs of ear-pendants, one of the shape of a conch shell and the other of a crescent are quite peculiar. The first being worn by a dancer and the other comes from a figure on the north pillar of the Eastern gateway of Sanchi.<sup>143</sup> Another variety of ear-ornament consisted of a double cone with small strings of globular beads or pearls<sup>144</sup> shown on the middle architrave of Northern Gateway. Another design of ear-ornament known as *Prakārvapra Kundala* was found in the ears of both males and females. It consisted of a square plaque in front of ear, to which a projection with two spiral turns was attached at the back and worn in the earlobe. Its front part was adorned with the design of a four petalled flower.<sup>145</sup> (Plate IX-14, 18). This type of ear-ornament is worn in the sculptures of Bharhut at many places.<sup>146</sup> Parkham *Yakṣha* is also wearing the same type of ear ornament. It is interesting to note that this type of ear-ornament discontinued in Indian art after Śunga period. A single earring found in the Bhīr mound, Taxilā is a disc pendant, 1.5 inches in diameter and 22 grains in weight.<sup>147</sup> Its decoration consisted of a double border of bosses in repousse arranged crescent wise round a circular gap. There are two small holes, one on either side of the gap, reinforced with wire rings on the obverse side. Some kind of hook for attaching the pendant must have passed through these holes. Terracotta discs of identical width and design, and similarly pierced, together with moulds for making them have also been found in the Bhīr Mound. Besides this almost all the excavated sites have yielded ear-ornaments. Among the important sites are Atranjikhera,<sup>148</sup> Chirand,<sup>149</sup> Champā,<sup>150</sup> Vaiśālī,<sup>151</sup> Autha,<sup>152</sup> Bateśwara,<sup>153</sup> Kayatha,<sup>154</sup> Katragarh,<sup>155</sup> Mathurā,<sup>156</sup> Noh,<sup>157</sup> Pataliputra,<sup>158</sup> Rājghāt,<sup>159</sup> Śrāvastu,<sup>160</sup> Sonapur,<sup>161</sup> Ujjain<sup>162</sup> etc. These ear ornaments were generally made of four kinds of materials viz. ivory, stone,

copper and terracotta. Of these terracotta ear ornaments were most common. From Rājghat<sup>163</sup> and Ujjain disc shaped ear-studs were found. They were four in number from Rājghat and had conical sides possibly for a proper grip in the earlobes. Other sites which yielded terracotta ear studs are Champā, Autha, Bateswara, Katragarh, Mathurā, Pataliputra and Sonapur. Sites yielding copper earornaments include Atranjikhhera, Champā, Kayatha, Śrāvastu and Ujjain. From Atranjikhhera it is circular in shape with depression forming mild dome at the back. Its pin was broken. Among the sites yielding stone ear-ornaments are Chirand, Vaiśālī, Kayatha, Noh and Ujjain. From Kayatha it was spool like and made of jasper. The specimens from Noh and Ujjain were also made of semi-precious stones.

Ivory ear ornaments were less frequent. Among the sites which yielded them at Atranjikhhera and Ujjain. From Ujjain, it was disc shaped and from Atranjikhhera, it was with grooved concentric circles having a small central knob and flaring edge on the frontal side and a plain back side (Plate IX-21).

Col. Gordon points out the style of wearing ear-ornaments in some terracotta figurines. They are wearing a flat ear ornament in one ear and a rounded one in the other as at Mathurā (Plate XXVII-B; Plate XXX-A; LXXXI-B, CIV-A, B) and Taxila.<sup>164</sup> Similarly one specimen from Pataliputra wears a cylindrical plug in right ear and a round plaque in the left.<sup>165</sup>

## ii Natural (Floral) Ear Ornaments

Some of the ear ornaments represented in Sānchi art appear to be natural flowers. The presence of the leaf along with the flower buds make it clear that it is a natural flower or a leaf sprout.<sup>166</sup> A lotus of many petals is worn by a lion rider depicted on the western Gateway of Sānchi and a lady on a railing pillar of Stupa no. 2. Similar earpendants of double leafy design have been worn by the goat riders on the Eastern Gateway of Sānchi.<sup>167</sup> Some terracotta female heads from Buxar also wear small earrings stamped with floral or leafy designs<sup>168</sup> (Plate XXVIII-A, B).

## c Neck Ornaments

Ornaments worn round the neck have been found from the very beginning of civilization in India. *Rigveda* mentions different types of neck ornaments used by both men and women.<sup>169</sup> *Arthaśāstra* provides a detailed list of multi-stringed large necklaces where the name of ornament differs according to the number of strings.<sup>170</sup> Both stone and terracotta figurines of Maurya Śunga period have been shown wearing necklaces of various designs. They are of two types, viz. the torques and the long necklaces.

### i Stringed Necklaces

Sculptures as well as terracottas represent varieties of long and short necklaces worn by men and women. Long necklaces were normally composed of one, two or even more pearl strings. Single stringed necklaces without spacers and pendulum appear to have been very much popular among the women folk (Plate X-1, 3, 4; XXIII-A; LXXII-A). They can be seen at many places in Sānchi sculptures<sup>171</sup> viz. *Padmāsana Lakṣmi* on Southern Gateway, *Gaja Lakṣmi* on Northern Gateway, *Indrāni* on west pillar of Southern Gateway; *Sālabhanjikās* on brackets of Northern and Eastern Gateways, Queens on the lower architrave of Northern Gateways, dancers on the North pillar of Eastern gateway, Cawri bearers on the lower architrave of Northern Gateways. A single stringed necklace with a square pendulum hanging from it has been represented on the Yakṣhi from Mehrauli and a dancing *Nati* from Mathurā



(Plate-LV-A).<sup>172</sup> A double stringed pearl necklace with or without floral patterns attached in the middle and sides are also found on the figures of both sexes, though rarely (Plate X-10, 15; LV-A, LXXII-A). A female devotee depicted on a rail pillar from Kauśambi, wears a double stringed necklace with adjustment device, (Plate XXVI-A). Atleast one necklace composed of three pearl strings is found on some female figures depicted on the Sanchi rail pillars of Stūpa no. 2.<sup>173</sup> (Plate X-6, 16; XI-1).

## ii Long Necklaces (Hāras)

There is another variety of long necklaces used by male figures specially in sculptures. These are multistringed, thick and heavy necklaces. Sometimes they were also provided with pendants and spacers of various shapes like squarish or rectangular (Plate X-13, 14, 17; XI-3, 6; XII-1, 4; XVIII-A; XXVII-A; XXXI-A; XXXII-A; LXXI-B; XCVIII-B; CI-B; CVII-B; CVIII-A; CXVI-B). An early Yaksha from Aktha near Sarnātha<sup>174</sup> wears a long necklace consisting of four strands of small circular beads that fall in a flat triangle on his bare chest. The necklace is secured in the centre by a trapezoidal clasp. In Sanchi sculptures they have been variously worn by dvārpālas, kings, devas, and men of rank.<sup>175</sup> Besides Sanchi, males wearing long necklaces have also been found from Mathurā (Plates XVIII-B); Kausambi (Plates XXXI-A); Parkham (LXXI-B); Besnagar (XCVIII-B). In comparison to males these were less frequently used by females. As far as Sanchi sculptures are concerned these have been used by two queens and attendants flanking a king on the west pillar of Southern Gateway and Gaja Lakṣmī on Northern and Eastern Gateways.<sup>176</sup> Bharhut sculptures also show similar representations of long necklaces worn by Māyā Devī (XXXVI-A) Sirima Devatā (Plate-CI-B) and Yakshi Chanda (Plate CVIII-A). A very fine representation of a beautiful necklace worn by a female is available in Mathurā Museum<sup>177</sup> (Plate XXVII). Some necklaces with auspicious symbols have also been depicted in sculptures as well as terracottas of the period (Plates : X-17; XI-2, 4, 5, 7; XII-1, 3). A very small necklet consisting of two amulets in the shape of nandipada symbols separated by a globular bead inserted in between, has been represented in *Kalpalatā* motif on west pillar of Southern gateway at Sanchi and a similar representation at Bharhut (Plate XX-A). The ornament can also be seen round the neck of one of the four Kumbhāndas forming the capital on the south pillar of the western gateway at Sanchi.<sup>178</sup> Two long necklaces among a group of eighteen hanging on pegs on the east pillar of the Northern Gateway at Sanchi provide another variety. One of them contains eleven (Plate XII-3) and the other thirteen amulets.<sup>179</sup> Yakshi from Mehrauli wears two necklaces with auspicious symbols. The one falling above the breasts has a clasp consisting of cylindrical beads separating two round human faced plaques with a nandipada symbol pendant. The other one falls below the breasts and has in the centre a prominent round pendant carved with a lotus motif.<sup>180</sup> From Vaiśālī a gold necklace is found during the course of excavation. It had beads along with spacers. There were two holes in beads for two strings to pass through (Plate : XV-12). Besides these sculptural depictions of necklaces, some of them were also found from various sites during the course of excavation. These were made of different materials like bone and ivory, shell, terracotta, glass, semi-precious stones and even gold and silver. From Atranjikhera<sup>181</sup> four specimens of bone pendants have been reported:

- (i) cylindrical and truncated, slightly lustrous with incomplete hole.
- (ii) Roughly discoid, truncated, crude with a thin hole.
- (iii) Irregular oval in cross-section, truncated, lustrous with a thin hole.

- (iv) A beautifully carved taurine shaped pendant with three holes in the upper part and two transverse holes in each of the two legs.

From Śrāvastī,<sup>182</sup> a drop pendant of bone was found with a sharpened lower end. It closely resembles plumb-bob. From Ujjain<sup>183</sup> a bone pendant of human shape was reported. Nagda<sup>184</sup> and Vaiśālī<sup>185</sup> are other sites from where bone and ivory pendants were reported. It appears that terracotta pendants were quite popular in those times. They have been reported from Atranjikhēra,<sup>186</sup> Champā,<sup>187</sup> Bateśwara,<sup>188</sup> Pātaliputra,<sup>189</sup> Rājghat,<sup>190</sup> Śrāvastī,<sup>191</sup> etc. All the nine pendants from Atranjikhēra were perforated. These were either truncated nail shaped or cylindrical. Only one is bell shaped. (Plate XVI : 8, 9, 10). A similar specimen was reported from Śrāvastī. One specimen from Rājghat was animal shaped. Pendants of glass, shell and semi-precious stones were also reported from some sites though less frequently. Shell pendants were reported from Eran<sup>192</sup> and Śrāvastī,<sup>193</sup> while glass pendants were found at Jajmau<sup>194</sup> Śrāvastī find of glass pendants is dagger shaped. Pendants of carnelian, crystal and agate were also reported from Jajmau.<sup>195</sup> One carnelian pendant from Śrāvastī<sup>196</sup> was dagger shaped. Sonapur<sup>197</sup> and Masaon<sup>198</sup> excavations have yielded human faced pendants with exotic features. The Sonapur find is made of crystal. From Taxilā<sup>199</sup> one gold pendant in disc shape and eleven silver pendants in bell shape were found.

### iii Torques (*Kanthhāras*)

This type of necklaces were short in length but quite wide. There were a number of variety among their designs<sup>200</sup> (Plate X-8, 9, 11, 12, 14; XII-4).

- (1) It consisted of lotus petal design surrounded by long and round cornered leaves<sup>201</sup> or with some other floral designs (Plate XVIII-A; XXVI-B; LV-A; CVII-A).
- (2) It was made of thin and curvilinear linings suspended in a chain (Plate : LXXX-A, B; LXXXII-B).
- (3) It was made of flat rectangular leaf motifs attached to a round and twisted thread and a pearl string.
- (4) A very attractive design of torque can be found round the neck of a dvārapāla on the south pillar of western gateway of Sāncī. It has a twisted thread attached with pearls and spherical beads alternating with inverted V shaped scrolls. The torque had one floral on each side of it (Plate CXV-A).
- (5) The Yakṣhī from Mehrauli<sup>202</sup> wears a flat torque, details of which have been effected.
- (6) A terracotta mould-made standing female from Kausāmbī<sup>203</sup> belonging to circa Ist cent. B.C. wears a torque with a central pendant flanked by triratna symbols.
- (7) Sometimes they wear simple torques made of rectangular plaques. (Plate : XXX-A).<sup>204</sup>
- (8) Sometimes they wear round torques with ornamentations shown with the help of dots or pin points (Plate XXI-A, B; XXX-B; CIV-A, B).
- (9) A very peculiar design of a torque can be seen in Plate XXII-B, a terracotta plaque from Kausāmbī showing a 3 stringed torque with central button like pendant in each string.

### iv *Vaikakshayak* (*Channavira*)

It was a very peculiar ornament being worn by both men and women. It was composed of two chains, sometimes pearl strings, forming a cross below the breasts. At the point of

cross, both shoulders and hips, were attached flowery medallions. A corresponding cross was also made at the back with a similar medallion at the cross (Plate : XII-5, 6, 7).<sup>205</sup> It has been worn at Sanchi by Śalabhanjikas (Plate : XXV-B) and demons of Māra's army. A terracotta statue from Sāridhert, now in the museum of fine arts, Boston has also been shown wearing this ornament but without medallions.<sup>206</sup> A Besnagar Yakṣhi and Chulakoka devata of Bharhut, both in the Indian Museum, Calcutta have been wearing this ornament. A female terracotta figurine from Kauśāmbi assignable to circa 255-185 B.C.<sup>207</sup> also wears this ornament.

#### v Beads

Various excavations have yielded a rich variety of beads made of different kinds of materials including terracotta, stone, semi-precious stones, bone and ivory, glass and shell, copper, iron and gold. Obviously, these were put in strings and were used as necklaces. Sometimes these could have been used for head and waist ornaments too. They are widely distributed (see the Chart). A few important types are described here:

#### Terracotta Beads

Most of the terracotta beads were well baked only some were sundried, some of them were also treated with slip. They varied in shape. The shapes that continued from previous period were onion, wheel, flat irregular circular, irregular spherical, globular and cowrie. The new shapes were vase, arcanut, pear, ghat, droomed and cylindrical, long convex hexagonal. Each face of the hexagonal bead was found decorated with applique wavy ridge pattern design.<sup>208</sup> Some vase shaped beads had constricted necks and some long cylindrical oblate ones with stamped designs consisting of a double row of chevrons.<sup>209</sup> Still others were gadrooned globular and amalak shaped.<sup>210</sup>

#### Bone and Ivory Beads

Beads of bone and ivory were lustrous and varied in shape. They were conch shaped, melon shaped, small barrel shaped, spheroid truncated, spherical, eyeshaped, short truncated barrel shaped,<sup>211</sup> long barrel oval<sup>212 & 213</sup> and standard bicone circular lug collared.<sup>214</sup>

#### Glass and Shell Beads

Glass beads have been reported from a large number of sites. They varied both in colour and shape. Their colours varied from green, blue, red, black to dull white and chocolate. There were a lot of variations among shapes also. They were hexagonal, circular, convex barrel circular, small spherical,<sup>215</sup> standard spherical, long barrel circular, long bicone barrel circular,<sup>216</sup> standard barrel circular, corner-less cube, barrel with lug collars, long barrel gadrooned hexagonal, oblate disc shaped.<sup>217</sup> Some glass beads were etched and some were stratified. In addition to these some beads of shell and shell paste,<sup>218</sup> were also found. They were circular disc shaped,<sup>219</sup> cylindrical or square.<sup>220</sup> The square bead showed four punched circlets on one side.

#### Semi Precious Stone Beads

Beads of semi-precious as well as ordinary stones have been found in large numbers from many sites. Their material varied including agate, carnelian, quartz, jasper, marble, soapstone, chalcedony, crystal, amethyst, serpentine, lapis, topaz, chert, coral, faience and lime. Some of them are etched probably by a chemical process.<sup>221</sup> Some have pentagonal

design with dots all over the body, some have elongated loops at alternate intervals within zonal bands at the margin. Some are flat square having biconical sides with diagonal perforation. Some are faceted decagonal with perforation near the tapering end, and some are long corrugated barrel elliptical.<sup>222</sup> The common shapes of beads were spherical, long barrel circular, short barrel circular, long barrel triangular, short cylinder circular, convex barrel lenticular with lug collar, rectangular collarless square, trapezoid or tapering lenticular, planoconvex elliptical and leech shaped lenticular.<sup>223</sup> Long bicone cylinder hexagonal, standard cylinder with four irregular ends, long convex circular were among the other common shapes.<sup>224</sup> From Rājghat spherical eye, disc, & āmalaka shaped beads were also found in addition to the above-mentioned shapes.<sup>225</sup>

Most of the faience beads from Rājghat were bluish green and coarse grained. Among them the commonest shape was faceted cornerless cube. Other shapes were long barrel circular and āmalaka shaped. Spheroid and disc beads of coral were comparatively rare in India. They were found at Rājghat, Nevasa, Maski and Taxila.<sup>226</sup> From Śrāvastī long banded elliptical, eye bead convex bicone, spacer bead with double perforation and crescent shaped beads were found.<sup>227</sup> It appears that beads were locally manufactured at Śrāvastī. Lumps of raw stones and unfinished specimens are the proof of the fact. An exquisite double pentagon bead of crystal shows a high degree of skill.<sup>228</sup> Similar beads have also been reported from Taxila<sup>229</sup> and Hāstināpur.<sup>230</sup> From Taxila irregular pear-shaped scaraboid, square table cut, scaraboid and hexagonal barrel shaped beads were reported.<sup>231</sup> From Chirand soapstone bead having lion's head and body of a scorpion was found. A similar specimen was found at Sonapur.<sup>232</sup>

#### Copper Beads

Although not very popular, copper beads were reported from quite a few sites. Copper beads from Atranjikhēra had circular ends, or they were discoid or irregular drum shaped and squatish.<sup>233</sup> Copper beads from Ahichchhatra were cut out of a thin cylindrical tube and their overlapping ends were not soldered.<sup>234</sup> From Besnagar<sup>235</sup> a collared copper bead was found while from Śrāvastī,<sup>236</sup> standard cylinder square shaped copper bead was found.

#### Silver Beads

From Taxila only five silver beads were reported. They were all spacer beads. Four out of five measuring .75 x .25 inch with spiral decoration and one measuring .9 x .26 inch with beads and real.<sup>237</sup>

#### Gold Beads

From Taxila<sup>238</sup> quite a big hoard of gold beads was found. In this hoard there were 84 round beads. They were ribbed and collared. Ribs were 12 - 14 in number. A number of similar ribbed beads with very ornate spacers were found from the same site in 1924. There were about 60 more round beads with 8 - 10 ribs angular in outline. Three conical terminals were found with grooved decoration. Two of them had three openings at the broad end suitable for receiving three strings and the third one had two openings. There were 55 zig-zag beads with two terminals. These beads were in the form of a broad letter W lying on its side and were pierced through the two outer angles for stringing on two threads. The terminals were triangular with bases modelled to fit the beads. Besides these, a human shaped gold bead was also found from Ujjain.<sup>239</sup>

Terracotta figurines found from various sites as well as sculptures of the period also

suggest that both males and females of ancient times used to wear garlands of beads as well as other kinds of ornaments in which probably beads had the largest share. Use of semi-precious stones and metals in making beads reflect their use by wealthy people.<sup>240</sup>

#### d Hand Ornaments

The tradition and fashion of wearing ornaments on wrist and elbow is as old as our civilization. References are available in Ṛigveda.<sup>241</sup> From various representations it is evident that both men and women used them.

##### i Bangles and Bracelets

All sculptural and terracotta depictions of both the sexes are shown wearing some ornaments on their wrists. The number and type of ornament may differ according to the status and liking of the person. All men or rank have been shown wearing thick bangles known as bracelets on their wrists. They were worn from four to seven in number. People of the common class wore plain bracelets while those of high rank used bejewelled ornaments. (Plate : XIII-1 to 9). In Sanchi, they have been worn at many places (Plate CXV-A) and also at Bharhut (Plate: CVII-A) and Mathura (Plate :CXVI-B). Almost all the Yaksha statues have been shown wearing this ornament. Even in terracotta art they have been shown on the hands of males (Plate : XCVII, XCVIII-A, B) and sometimes of females also. For example Nati from Pataliputra<sup>242</sup> (Plate : XXI-B) is shown wearing only one bracelet in her hand. The terracotta female figurine in Ashmolean Museum, Oxford, also wears four heavy bracelets on each wrist.<sup>243</sup> A terracotta plaque from Mathura depicting a female shows one flat and broad bracelet on each wrist.<sup>244</sup> A terracotta plaque from Mathura depicting a female shows one flat and broad bracelet on each of her hands (Plate XXVII-A). From Bateśwara<sup>245</sup> a bone bracelet has been reported during our period of study.

The hands of ladies have always been shown full of bangles upto the elbows. Normally these bangles were plain and simple and varied in material. (Plates : XX-B; XXII-A; XXV-B; XXVI-A; XXXII-A; LV-A; LXXII-A; CI-B; CVIII-A). All the sites have yielded bangles during the course of excavation. Their materials were copper, iron, ivory and bone, shell, glass (Plate : XVII-1 to 6), stone and terracotta (Plate : XVII-7 to 9). From Śrāvastu,<sup>245</sup> a copper bangle was found with an interlaced knot (Plate : XV-8, 9) and some terracotta bangles with stamped patterns. From Hastinapur<sup>246</sup> a very interesting copper bangle was found provided with a series of holes and a rivet, presumably for adjustment. From Bhirmound in Taxila<sup>247</sup> gold bangles with ends terminating in lion's head like achæmeid gold armlets have been found.

##### ii Armlet (*Keyūra*)

Armlets were quite popular in the Maurya and Śunga period as is quite evident from its representation on the huge statues of the *Yakshas* and *Yakshinis* found from Vidisa,<sup>248</sup> Mathura,<sup>249</sup> Pawaya,<sup>250</sup> Patna,<sup>251</sup> Sarnath<sup>252</sup> and sculptures of *Yakshas* and *Yakshinis* on the railing pillars of Bharhut<sup>253</sup> (Plate : C1-B; CVII-A), Sanchi,<sup>254</sup> Mathura (Plate : LV-A; CXVI-B) a figure of Indra on a railing pillar of Bodhgaya<sup>255</sup> and a female devotee on the railing piece from Kauśambi. (Plate : XXVI-A).

The Śaranāth *Yaksha* is wearing a trefoil type armlet in his left upper arm. Kala refers a plate of Bharhut *vedika* showing a beautiful armlet with triple rosettes above and a row of small pendant bells below.<sup>256</sup> A Patna *Yaksha* is wearing serpentine armlet.<sup>257</sup> However,

Sāncī sculptures present only four representations of this ornament.<sup>258</sup> They are on the central figures of the Kumbhāndas within a design of the tree of life on the lower architrave of Southern Gateway, elephant riders on a false capital of Southern Gateway and two female figures standing on pillar nos. 29 and 21b of stūpa no. 2. Some terracotta figurines are also shown wearing this ornament, like a standing female figurine from Kauśāmbī.<sup>259</sup> /

Some armlets were wrought with beaded pattern and edged in by one rim. Some were in a trident form attached to a strap as in case of Mathurā Yakṣha (Plate : XVIII-A) or a double string of pearl beads. Some had gem set square projection.<sup>260</sup> (Plate : XIII-10 to 14).

### iii Finger Rings

Although there is no representation of finger ring in any of the sculpture or terracotta, almost all the sites have yielded finger rings during the course of excavations. From these finds it appears that the people of our period of study were fond of wearing the finger rings. The material of these rings varied from copper to iron, shell, stone and sometimes even silver. Copper rings were largest in number (Plate : XV-11). Taxilā<sup>261</sup> is the only site yielding six silver rings with plain, oval, convex bezels. Other sites yielding finger rings are Ahichchhatra,<sup>262</sup> Bateśwara,<sup>263</sup> Besnagar,<sup>264</sup> Eran,<sup>265</sup> Jajmau,<sup>266</sup> Nagda,<sup>267</sup> Noh,<sup>268</sup> Piprahwa and Ganwaria,<sup>269</sup> Purānā Qilā,<sup>270</sup> Śrāvastu,<sup>271</sup> Atranjikhra,<sup>272</sup> Tumain,<sup>273</sup> Hastināpur<sup>274</sup>, etc. (Plate : XVI-1 to 7).

### e Other Ornaments

#### i Girdles

Women folk of all ranks have been shown wearing girdles in sculptures as well as terracottas. While males secured their dhoti by fastening it with a cloth belt, females generally used metallic girdles to keep their sarees in place (Plate : XIV). However, sometimes they were merely decorative ornaments as is evident from the statue of Yakṣhi Chandā from Bharhut assignable to *circa* 2nd cent. B.C. (Plate : CVIII-A). These girdles were made by fastening beads, pearls or gems to the strings. Evidences of girdles made of gems like sapphire is also available from Arthaśāstra.<sup>275</sup> Girdles used by females of Śūnga times were composed of many strings, from two to six.<sup>276</sup> (Plates : XX-B; XXV-B; XXVII-A; CI-B; CVIII-A). These girdles must have been provided with hooks, as evident from the five stringed girdle of the Didārganj Yakṣhi<sup>277</sup> (Plate : XXII-A) and the three stringed one of a Mathurā female on a rail pillar.<sup>278</sup> The separate chains are put widely apart on the sides and clasped together in front by two bell shaped buckles. Yakṣhi from Mehrauli wears a broad girdle consisting of six strings, the first, third and fifth of hexagonal fluted beads; the second and sixth of square beads with round ends and the fourth of flattened round beads carved with eight petalled lotus flowers.<sup>279</sup> A four stranded girdle is worn by a female in terracotta from Kauśāmbī belonging to *circa* 1st cent. B.C.<sup>280</sup>

#### ii Anklets

Foot ornaments called anklets were commonly used by women in ancient times (Plate : XV-1 to 5 and 10). On the basis of the evidence provided by the sculptures and terracottas of the Śūnga age, the ladies of the Śūnga period used two varieties of foot ornaments, either separately or together. One was a group of thin and plain ringlets worn round the legs from ankle to half way the knees (Plate : XV-1). The other was a single but thicker ring either plain or twisted.<sup>281</sup> (Plate : XV-3).

A bracket Śalabhanjika on the Eastern gateway at Sanchi is wearing anklet rings made out of a single wire by twisting in to many rings. Sometimes thin rings were worn with one thick ring at the bottom (Plate : XV-4) or only thick ones were worn either in one or two (Plate XV-2; XXV-B; XXXII-A). A very peculiar design of anklet is worn by a Nati depicted on a railing pillar from Mathurā (Plate LV-A). Didārganj Yakshi (Plate LXXII-A) is shown wearing very heavy anklets—one in each foot. Similar anklets have been worn by a terracotta female from Kauśāmbi (Plate : CIV-A).

Though not many kinds of anklets were found from the excavations, Atranjikhera (Plate : XV-10) and Ganwaria have yielded copper anklets.

### iii Brooch

From Śrāvastu,<sup>282</sup> a thin and oblong copper brooch (Plate : XV-7) was found during the course of excavation. An almost similar piece was also reported from Hastinapur<sup>283</sup> (Plate : XV-6). It was also made of copper.

## C. Coiffures & Cosmetics

People in ancient India were very fond of improving their appearance. Besides garments, they also used different types of beauty aids, cosmetics and hair dresses. Though men also used the above things, women were more fond of them. Evidence of the use of beauty aids is available in archaeological finds as well as literary evidences. Even Harappā has yielded many examples of beauty aids like Kohl, hairpins, combs and mirrors.<sup>284</sup> Even bathing was given due importance, as shown by the emergence of the great bath and other public bathrooms during the excavations as early as Indus civilization. Literary evidence is also available from the Vedas and other vedic literature, from the works of Pāṇini, Kautilya, Patañjali and Manu, and from early Buddhist literature particularly the Jātaka stories, the two epics — Rāmāyaṇa and Mahābhārata, and classical Sanskrit literature specially that of Kālidāsa.<sup>285</sup>

Although we do not find any direct representation of bathing in the sculptures of Sanchi<sup>286</sup> and Bharhut,<sup>287</sup> there are scenes depicting water sports in lotus ponds indirectly indicating the bathing.

Moreover a large number of terracotta skin rubbers (Plate : XXIV-1, 2) have also been reported from almost all the excavated sites such as Atranjikhera,<sup>288</sup> Jajmau,<sup>289</sup> Autha,<sup>290</sup> Bateśwara,<sup>291</sup> Besnagar,<sup>292</sup> Katragarh,<sup>293</sup> Noh,<sup>294</sup> Pariar,<sup>295</sup> Rajghat,<sup>296</sup> Raja Karaṇa Ka Qila,<sup>297</sup> Śrāvastu,<sup>298</sup> Sonapur,<sup>299</sup> Tumain<sup>300</sup> and Hastinapur.<sup>301</sup> They are mostly rectangular in shape, well burnt, made of medium fabric and dull red in colour.

### 1. TOILET BOX (PRASĀDHANA PETIKĀ)

Foucher has pointed out to the only representation of a toilet box in Sanchi Sculpture. On the southern gateway a couple is depicted in sitting posture. On the left side of the woman, a cylindrical box is hung which probably contains some toilette preparations.<sup>302</sup> However, ladies holding similar toilet cases have been represented in Mathurā sculpture.<sup>303</sup> Agrawāla calls these ladies as *Prasādhikā* and the toilet case as *Śringāra - petikā*.<sup>304</sup> Their use as toilet cases is evident because in one terracotta specimen from Mathurā the lady is looking into mirror and arranging her coiffure while her woman attendant is holding the toilet box before her.<sup>305</sup>

### a. Lac-Dye

At Bhārhut, scenes depicting meandering creepers show mango fruits as the containers of the lac-dye.<sup>306</sup>

### b. Antimony Rods (Kohl Sticks)

Almost all the North Indian sites have yielded various types of antimony rods during excavations (Plate : XXIV-7, 8, 9). Among the important sites are Atranjikhhera,<sup>307</sup> Allahapur,<sup>308</sup> Balirajgarh,<sup>309</sup> Chirand,<sup>310</sup> Bateśwara,<sup>311</sup> Kayatha,<sup>312</sup> Katragarh,<sup>313</sup> Mathurā,<sup>314</sup> Masaon,<sup>315</sup> Ujjain,<sup>316</sup> Nāgādā,<sup>317</sup> Pariar,<sup>318</sup> Hastināpur,<sup>319</sup> Sonapur,<sup>320</sup> Śrāvastu,<sup>321</sup> Pataliputra,<sup>322</sup> and Vaiśālī.<sup>323</sup> Most of them are made of copper, only some are made of terracotta and one from Ujjain is made of ivory. Two specimens - one each from Allahapur and Bateśwara are made of bone. These rods are clubbed at both ends.

### c. Nail Parer

One of the items of toilet box — the nail parer was also used by the people of our period of study. Some nail parers have been reported during excavations (Plate : XXIV-6) of the sites like Śrāvastu,<sup>324</sup> Hastināpur,<sup>325</sup> Allahapur,<sup>326</sup> and Atranjikhhera.<sup>327</sup> They are made of copper. According to Gaur, these are circular rod like structures with one end flattened and twisted near the same end.

267923

### d. Mirror (Darpaṇa)

Probably highly polished metallic plates were used as mirrors mainly because glass mirrors were not known. In support of this argument we have been supplied with one copper mirror from Masaon.<sup>328</sup> Besides several bone and ivory mirror handles (Plate : XXIV-5) have been found from Ahichchhatra,<sup>329</sup> Mathurā,<sup>330</sup> Taxila,<sup>331</sup> Ujjain<sup>332</sup> and Hastināpur<sup>333</sup> during the course of excavations. Most of them were carved in the shape of human figures. Sāncī panels also show some representations of mirrors. On the north pillar of Western Gateway a lady is shown holding a round mirror in her one hand. Similar mirrors with handles have been depicted on the eastern pillar of Northern Gateway and a medallion on the railing pillar (no. 81b) of Stūpa no. 2.<sup>334</sup> This type of scene are common on Mathurā rail pillars.<sup>335</sup>

Some terracotta plaques belonging to Śunga period also depict women holding mirror. In one specimen, a lady is holding a mirror in her left hand and adjusting her ear ring with right hand.<sup>336</sup> In another terracotta plaque,<sup>337</sup> the lady is shown seeing herself in mirror and her shadow is shown in the mirror with the help of lines.

### e. Comb

Comb is the primary need for making hairdos. So when we find elaborate hair-dresses in sculptures and terracottas, it becomes necessary to think of comb or a thing like that. Combs of bone and ivory have been reported from excavations at Atranjikhhera<sup>338</sup> and Ujjain.<sup>339</sup> The specimen from Atranjikhhera is rectangular. Its upper half is decorated on both sides with rows of incised ringlets, one row on each side being in between two parallel lines. Its spikes are mostly damaged.

### f. Hair-Pin

To hold those elaborate hair dresses in place they might as well be needing same hair



pins or clips. From Atranjikhera<sup>340</sup> and Hastinapur<sup>341</sup> (Plate : XXIV-3) a thin flat copper bar was found and it is probably part of a hairpin. Other copper hair clips have been reported from Campa,<sup>342</sup> and Śrāvastu (Plate : XXIV-4). In comparison to copper clips; ivory and bone clips were more common. They have been reported from Noh,<sup>343</sup> Nagda,<sup>344</sup> Śrāvastu,<sup>345</sup> Taxila<sup>346</sup> and Ujjain.<sup>347</sup> Śrāvastu specimen has been decorated by an ornate pattern on its upper end.

## 2. TILAKA MARK OR BINDI

Though according to the literary sources both men and women used to apply *tilaka* mark on their forehead with the help of *Sandal* or *Kumkum*, we could not find even a single specimen of men with tilaka. However, women folk used it quite frequently. Figures of *Śalabhanjikas* in Sanchi sculptures,<sup>348</sup> appear to be using *tilaka* or *bindi* on their foreheads just above the nose. A dancing *nati* depicted on a rail pillar from Mathurā (Plate : LV-A) is also shown applying *Bindi*.

A terracotta plaque of Śunga period, now in Ashmolean Museum, Oxford shows a standing female with traces of tilaka mark in the usual place. Besides this there are some more terracotta female figurines with bindi applied on their forehead.<sup>349</sup> (See Plate : XXIII-A, B).

## 3. TATOO MARKS

In the period of our study, sculptures in Bharhut show the faces of women with certain marks. According to Cunningham these were tatoo marks. For example Yakṣhi Chanda was shown with several flowers on her cheeks.<sup>350</sup>

## 4. FLOWERS AND GARLANDS

Flowers and garlands were used for personal decoration as is evident from the Sanchi sculptures. The garlands were not only used round the neck but also as a decoration in head-dresses, specially of the ladies.<sup>351</sup> The stylistic hair dressing of the *Śalabhanjikas* on the Northern Gateway show braids woven with garlands or hanging at the back. There are some terracotta plaques also, which show garlands used to decorate hair (Plate : LXXXV-B). As in this plate a Yakṣha is shown wearing a garland over his forehead. In another terracotta plaque Kamiadeva (Plate : XCVII) is shown wearing a garland in his neck.

## 5. HAIR DRESS

The art of hair dressing in India is as old as its civilization. From the very earliest times, Indians were very fond of decorating their hair in different styles, as is evident from the terracotta and stone statues. Moreover, the discovery of combs, hair pins and the handled mirrors from various sites during excavations make it clear that the art of hair dressing was quite popular among the people of our period of study. From the variety of waves and curls on the sculpture heads, it appears that the art of curling the hair was well known (see Plates : LV A; XX-B).<sup>352</sup> The terracotta as well as stone figures have been shown wearing different types of head-dresses. Some of them appear to be foreign in origin, viz. in one example from Besnagar,<sup>353</sup> we find a laurel head-dress which is very commonly found in Hellenistic art, while others appear to be indigenous and resemble with the preceding and succeeding periods of India.<sup>354</sup>

### a. Female Hair Dress

Sculptures as well as terracottas represent the most striking female hair styles of the

Maurya-Śunga period. The head-dresses are varied and elaborate, the principal types being the following:—

(1) The Śalabhanjikas on the northern gateway of Sānchi<sup>355</sup> have been shown wearing long double braids and above them are the chains of gold, strings of pearls and garlands of flowers, coming from their forehead and hanging at their back. Yakshi from Mehrauli wears the long braid of hair interwoven in two locks coming down to the girdle and falling on the side.<sup>356</sup>

From Mathurā, terracotta figurines have their hair done in to lateral masses and fastened with string of pearls<sup>357</sup> or flowers. (see Plates : XXII-A; XXVII-B). Yakshi Canda (see Plate : CVIII-A) is shown wearing single braid towards her right side. One terracotta plaque from Mathurā shows a female in standing posture with centre parting of her hair and 3 braids on each side (Plate : XXVII-A), another plaque shows a female figure wearing a very elaborate head dress and on each side one streamer is falling. They are interwoven with beads or pearls (Plate : XXVII-B).

(2) Another style of arranging hair is simple knot of hair over the head. One specimen from Buxar wears a knot of hair on the top of her head,<sup>358</sup> similar to one attendant shown in the scene depicting Māyā's dream in Bharhut (Plate : XXXII-A), while Goddess *Gaja Lakshmi* on the Southern gateway of Sānchi has her hair arranged in a conical knot towards the right side.<sup>359</sup> One mould made standing terracotta female from Kauśāmbi belonging to c. 1st cent. B.C. has her hair arranged in matted lock fashion and is bound by ornamental fillets.<sup>360</sup>

(3) Another hair-dress looks like a turban in which an ornamented cloth (?) is wrapped round the head and above this there is a pleated cloth coming out of the round piece of cloth. Two lateral masses come out of it below, just above the ears. This type of hair styles can be seen among the Buxar type terracotta figurines. This style may be a local fashion in the area. (Plate : XXVIII-A, B).

(4) One more is a triangular head-dress made of three pieces of rolls covered with check designs, two longer pieces placed on either side of the head and the smaller one in the centre joining the two. This is probably a turban made of a check cloth (Plate : XXIX-A).

(5) In another style the head-dress consists of three or four rosettes. Two are arranged just above the ears, one on each side and one in the centre in case of three and one on each side of the centre parting in case of four. (See Plate LXXX-A, B). Some have a band of three leaves with vertical linear incision fastened over the head (Plate : XXI-A). Some figurines have a wig like head-dress which covers both sides and is stamped with rosettes<sup>361</sup> (see Plates : XXVI-B; XXX-A, B, LXXXIB). Each vertical band has five to seven rosettes in a row, but some bands have double rows of rosettes.

(6) Another is a bicornate type of head-dress. In this type the two high smooth hornlike ends are decorated with rosette and other designs. One specimen from Mathurā<sup>362</sup> has stamped decorations including Cakra marks. 'The Smiling Girl', terracotta figurine from Patnā also has the bicornate type of head dress.<sup>363</sup>

(7) One terracotta standing female figurine from Pataliputra (Plate : XXIX-B) has a high headgear. On either side of it is fixed a hanging hornlike thing and big rosettes in a line above, the bigger one in the centre and smaller ones on the sides.<sup>364</sup>

(8) One terracotta female figure from Ahichchhatra wears a head dress having two features (i) trefoil pattern and (ii) streamers falling on each side of the head.<sup>365</sup>

(9) A bracket *Śalabhanjika* of the Eastern gateway of Sānchi combs her hair from left to right. A peacock plume shaped cloth is also tied to the hair. This cloth has folds. At the back the hair is arranged in ringlets.<sup>366</sup>

(10) Simply combing the hair to fall with a parting line was another style of hair dressing. Normally the parting line was kept in the middle, as is evident from various examples in terracottas as well as stone (see Plates: XXIII-B; XXV-A; XXVII-A, B; LXXX-B; C1-B). But examples of keeping it to the left or right are not wanting. There are specimens showing parting line to the left or right in Sānchi sculptures. Parting line towards right side can be seen in a medallion of Stupa no. 2, while the parting line towards the left can be seen on the bracket *Śalabhanjika* at the Eastern Gateway and another small *Śalabhanjika* at the Northern gateway.<sup>367</sup>

### b. Male Hairdress

Indians have mostly been depicted wearing turbans both in terracotta and stone. There are very few examples of bare headed males. The bare headed males are either ascetics and genii or the foreigners. Therefore, very few hair arrangements of males are known (Plates III-1 to 7, 10, 11; IV-1, to 5). However, they generally kept long hair tied in a topknot, around which the turban was arranged. Megasthenes says,<sup>368</sup> "If one is guilty of a very heinous offence, the king orders his hair to be cropped, this being a punishment to the last degree infamous."

One male hairdo is matted or *jata* style, popular among the ascetics. In this style the long matted hair were wrapped layer upon layer over the head. Māra, depicted on the back side of the lower architrave of Western gateway at Sānchi, wears a *jata* made of three layers of matted hair, every layer being kept slightly towards the left.<sup>369</sup> While in one Bharhut sculpture (Plate: XX-A) the ascetic has wrapped his *jata* towards the back of his head.

Some males have also been depicted with curly hair. One terracotta mould of a male head from Mathurā (Plate : XXVII) has curly hair, some dwarf males in Sānchi sculptures also wear curly hair.<sup>370</sup> Some of them have been shown with forehead bands securing their hair. The man fighting with a crocodile also wears the same style of hair.

The head of the laughing boy from Patna (Plate: LXXXI-A) has bicornate head dress of which the right side is higher and the left one is flat. It is made of a cloth which is fastened at the back.<sup>371</sup>

Two terracotta male figurines identified as foreigners have been depicted bare headed. One in standing posture<sup>372</sup> (Plate : LXXXII-B) has tied his hair in single bun towards the left side just above the ear. This style can also be seen in terracotta Yakṣha from Ahichchhatra (Plate : XIX-A). The other one in sitting position<sup>373</sup> (Plate : LXXXIII-A) has combed some of his short cut hair on his forehead.

One stone male head from Sarnath,<sup>374</sup> now in National Museum, New Delhi, has shoulder cut hair.

### c. Beard & Moustaches

Beard and moustaches were not common in the period of our study, as appears from their frequency in stone as well as terracotta art. Mostly ascetics and foreigners have been shown wearing beard and sometimes moustaches. Indirectly, it proves the presence of the barber, who has been frequently mentioned in ancient Indian literature.<sup>375</sup> Shaving has been referred to by Patañjali in his *Mahabhāṣya*.<sup>376</sup>

Ascetics, however, kept moustaches. It is evident from the representation of them on the panels of Sānchi Stūpa, on northern and eastern gateways.<sup>377</sup> Mallas depicted on the Northern Gateway of Sānchi Stūpa have also been shown wearing beards and moustaches.<sup>378</sup>

The stone head found at Sarnāth also wears moustaches. They are very prominent and hanging downwards with curved ends.<sup>379</sup>

Some terracotta male figurines from Mathurā also wear beards. They have been identified as foreigners, (Plate : LXXXIII-A, B). The beards have been indicated by indentation marks on the chin.<sup>380</sup>

#### d. Items of Daily Use

So far we have dealt only about the items which could be seen on the self of the people showing their concern about their physical appearance. Besides this, people of our period of study lived quite a civilized way of life. Urbanization had increased their needs. We find a lot of things used in daily life both in art depictions as well as actual finds during the course of excavations. Here I have made an attempt to describe those items.

#### 1. FURNITURE

Furniture formed part of household materials with the growth of urbanization. Their nature and variety as well as number increased tremendously. These items were also indicative of the social status of a family. Below is given an account of those furnitures which were generally used in the period of our study. The major source of our information has been the sculptural depictions.

Among furniture following items have been depicted in the sculptures of Bharhut and Sanchi. Some items have also been represented on terracottas.

- a. Small thrones,
- b. Seats,
- c. Wicker stands,
- d. Foot stools,
- e. Bed steads,
- f. Mattresses and pillows.

#### a. Small Thrones

In literature mention has been made of a large variety of chairs and sofas<sup>381</sup> but we find only few types depicted in the art of the period.

Although the representations of small thrones are very few at Bharhut, the available specimens give a clear idea of this item of furniture. They depict two types of small thrones — one with solid lower structure but devoid of arms and second having legs and armrests.<sup>382</sup>

- (i) Throne with solid lower structure devoid of arms have been illustrated at Bharhut in the scene of *Mahāummaga jātāka*.<sup>383</sup> Its seat frame appears to be square in shape. The frame of the top bar of the back has inward ledge. The stool provided in the front is for foot rest.
- (ii) Throne having legs with armrests but without back has been depicted both in Bharhut and Sanchi sculpture. At Bharhut, in one of the depictions the throne has a rectangular seat mounted on legs with broad squarish base. It has no base but is provided with side arms.<sup>384</sup> In another panel at Bharhut depicting *Takkariya Jataka*, a throne with back, arm rests and legs can be seen. The king is sitting on it. Its leg portion is damaged, but a squarish seat with side arms is clear. The side arms have oblique slashes both internally and externally.<sup>385</sup> The same type of throne also

occurs on the western gateway at Sanchi.<sup>386</sup> It has a rectangular seat mounted on legs. The core of the seat is decorated with lining and a dotted design. The arms have the support of bars. It has no back but is provided with side arms. The side arms are decorated with vertical multibands. This type is also found in the terracottas from Kauśambi. (Plate: XXXI-A). The Kauśambi specimen also has a rectangular foot-stool, but it is not sure whether the Sofa has a back or not.

- (iii) A throne having legs but no arm-rests has been illustrated at Sanchi on the Southern gateway.<sup>387</sup> It has two pillar shaped legs. It is provided with a rectangular foot-stool.
- (iv) The throne having animal figures as legs but devoid of arm rests have been depicted in the Sanchi sculpture. Since the end of the top bar of the back are mutilated, their details are not available. The throne has no armrests but has animal shaped support. The animal figures represent a lion as is evident from its paws. There is no foot-stool with it.<sup>388</sup>

#### b. Seats

The representation of seats including those made of cane (*Vetrāsana*) in early Indian sculptures are many and varied.<sup>389</sup> Their varieties represented in art are as follows:

- (i) At Bharhut a rectangular seat with solid base is illustrated in the sculpture revealing *Kuśa Jātaka*. The seat has an appearance of a pedestal. It is richly decorated with a check pattern.<sup>390</sup> A similar example with different decoration occurs on a pillar.<sup>391</sup> It is a rectangular seat with a bodhi tree. The solid rectangular seat frame has the design of oblique slashes. A similar kind of stool also occurs in Bharhut sculpture revealing "the scene of tickling the nose of a giant by the monkeys." (Plate: LXXII-B). The giant is shown sitting over a solid seat. The lower structure contains the design of a diamond in double lines. A rectangular foot-stool is also provided.

Another type of seat is depicted in Sanchi sculpture occupied by an ascetic. It appears to be a rectangular wooden block.<sup>392</sup>

Altogether different from the above, literary accounts also refer to larger seats like modern benches to accommodate three persons.<sup>393</sup> At Sanchi in one of the reliefs, three pairs of couples are depicted sitting on a bench.<sup>394</sup>

- (ii) A rectangular seat with legs has been depicted on a Bharhut pillar revealing "Bodhi tree worship". It is a carved rectangular seat and has pillar shaped legs.<sup>395</sup> On the northern gateway of Sanchi a rectangular four legged seat has been depicted. Its seat appears to be woven.<sup>396</sup>
- (iii) The circular cane seats like modern morhas appears to be the most favourite item of furniture during the period of our study. These caneseats are invariably seen mounted with cushions.<sup>397</sup> At Bharhut the panels revealing the scene of Mahākapi jātaka illustrates an elaborate circular cane seat. It is decorated with criss-cross pattern in double line.<sup>398</sup> In another scene, at Bharhut, illustrating "a tree spirit offering food to a good man", a cane seat is shown. It is circular in shape and decorated with zig-zag lines. Over this there is a cushion in criss-cross design.<sup>399</sup> A Sanchi sculpture depicting "Bodhi-tree Worship", reveals cane seats. Nāga female attendants are shown sitting over them. They are decorated with two rows of criss-cross design. They are placed with cushions. The stitching works of cushions are clearly visible.<sup>400</sup> On the north pillar of eastern gateway at Sanchi, two cane-seats

are carved. One of them is elaborately decorated with a row of cross marks and wavy lines arranged alternately. A cushion is placed over it with check pattern. The other cane seat is decorated with herring bone pattern.<sup>401</sup> From Kauśāmbi, a terracotta plaque shows a woman sitting on a seat made of cane. It is decorated with lines and also provided with a cushion.<sup>402</sup> (Plate: XXXI-B).

- (iv) Stools have also been depicted in Bharhut and Sānchi sculptures. In Bharhut sculpture the depiction of the scene of tickling the nose of a giant by the monkeys, a three legged stool has been shown. It has a rectangular top mounted on curved legs. A monkey is shown sitting over it.<sup>403</sup> (Plate : LXXII-B). In another scene depicting 'Vidhūrapandita jātaaka', a stool with solid square base and a circular top has been shown.<sup>404</sup> Still another type of stool was shown in the Sūchi jātaaka of Bharhut sculpture.<sup>405</sup> It has an arched base surmounted by a rectangular top. In Sānchi art, drum shaped stool has been shown and is provided with cushion.<sup>406</sup>

#### c. Wicker Stands

There is no representation of wicker stand at Bharhut. At Sānchi there is only one representation of wicker stand. It is a circular stand and some edibles are kept over it.<sup>407</sup>

#### d. Foot Stools

The foot stools constituted an important article of furniture in Indian households. Mainly rectangular stools were used. They were kept before thrones and seats for resting the feet. Some of them have been described along with thrones and seats previously. These foot stools were mostly plain without any decorations.<sup>408</sup> (Plates : XXXI-A; LXXII-B).

#### e. Bed-Steads

Bed steads are generally depicted in the sculptures showing the scenes of "Māyā's dream", as well as jātaaka stories. Māyā's dream depicted at Bharhut and Sānchi<sup>409</sup> show bedsteads with pillar like legs. Depiction at Bharhut (Plate : XXXII-A) shows Māyā lying on the bed with one of her arms so kept to serve a pillow and the knees stretched.<sup>410</sup>

#### f. Mattresses, Pillows and Cushions

Valuable carpets, rugs, pillows, curtains and other such items have been described in literature. Thus mention is made of 'coverlets with long fleece, counterpanes of many colours, woollen coverlets white or marked with thick flowers, mattresses, cotton coverlets dyed with figures of animals, rugs with long hair on one or both sides,<sup>411</sup> and pillows of various kinds.<sup>412</sup> In Bharhut sculptures, in one of the scenes, a baby is shown sleeping over a mattress. A pillow is also provided. The mattress is seen spread over the floor.<sup>413</sup> In another scene depicting "Māyā's dream", the bed is covered with a mattress alone or with a spread over it.<sup>414</sup> (Plate : XXXII-A).

Nearchos says that Indians grow cotton trees, the wool of which was used by Macedonians for stuffing the mattresses.<sup>415</sup>

Pillows and cushions were freely used as is evident from the sculptures. Buddha's empty throne is invariably illustrated with two pillows — one to sit upon and the other to lean against. In some cases cushions are seen placed on the furniture exactly fitting into them. The cane seats are generally represented with pillows having rounded corners. Sometimes the thrones were provided with as many pillows as the number of persons occupying them. In

some instances the cushions were used for sitting, without placing them on any furniture, thus showing that the pillows and cushions were stuffed.<sup>416</sup> An instance where a cushion seat is used independently without placing it on any item of furniture occurs in Bharhut sculpture depicting "Maya's dream".<sup>417</sup> Here two female attendants have been shown sitting on cushions (Plate : XXXII-A). At Sanchi, in one sculpture two male devotees are shown sitting on circular cushion seats.<sup>418</sup> On the western pillar of the Northern Gateway at Sanchi six circular cushions have been depicted over which six male devotees are sitting.<sup>419</sup>

Literary accounts of this period also refer to the smaller articles like the floor cloth, mosquito curtain and even handkerchief<sup>420</sup> but unfortunately we could not find any of the items in sculpture or terracotta art depictions.

## 2. OTHER ITEMS OF DAILY USE

### a. Mortar, Pestle and Querns

A large number of grinding objects have been either depicted in sculptures or are found during excavations. In an interior view of a house from Sanchi sculpture a lady is pounding some grain in a mortar with a pestle rod. The mortar is just like a sunglass (damarū shaped).<sup>421</sup> Two more ladies have been shown working separately on the pastry boards with rollers in their hands. One of the boards is smaller with short legs while the other one is bigger with larger legs.<sup>422</sup>

Such querns and mullers are found in early historic levels at ancient sites all over the country. The north-Indian sites are Ahichchhatra,<sup>423</sup> Allahapur,<sup>424</sup> Autha,<sup>425</sup> Bateśwara,<sup>426</sup> Besnagar,<sup>427</sup> Chirand,<sup>428</sup> Masaon,<sup>429</sup> Nāgada,<sup>430</sup> Noh,<sup>431</sup> Ganwaria,<sup>432</sup> Prahādpur,<sup>433</sup> Sonapur,<sup>434</sup> Śrāvastu,<sup>435</sup> Tripuri,<sup>436</sup> Ujjain,<sup>437</sup> Atranjikhhera,<sup>438</sup> Rājghat<sup>439</sup> and others.

From almost all the sites these pestles, querns and mortars are made of stone. From Noh,<sup>440</sup> the saddle-querns were four legged. Legged stone querns with pestles have also been reported from Ganwaria.<sup>441</sup> A large number of sand stone pestles have been reported from Śrāvastu.<sup>442</sup> Some of them still retain their fine lustrous polish. The grinding stones from Tripuri<sup>443</sup> are decorated. The stone pestle, querns and grinders (Plate : XXXII-1, 2; XXXIII-1, 2) from Atranjikhhera<sup>444</sup> are either in red or grey sandstone.

Other than stone, some sites have also yielded terracotta pestles and querns. From Masaon,<sup>445</sup> pestle made of unbaked clay was found. Stone chips were fixed on its working side in a mosaic form. From Prahādpur<sup>446</sup> pestle of coarse clay was found. It was not well fired and it had the shape of a barrel. Its one surface was made rough by inserting small irregular pieces of stones. Śrāvastu<sup>447</sup> has yielded a terracotta pestle with triangular notches for grinding. From Atranjikhhera,<sup>448</sup> terracotta pestle and querns were found studded with small stone chips on the working surface (Plate : XXXIII-3, 4) similar to one found from Masaon. Pestles are generally cylindrical while querns vary in shape. One is with sagger base, long tapering legs and prominently raised flaring sides. Second one with flat base and slightly raised flaring sides. Third one is with flattish ringed base and slightly raised flaring sides and the fourth one is with sagger base, tapering legs and horizontal sides.

### b. Winnowing Baskets

Sanchi sculptures afford the interior view of a house where many ladies are shown engaged in different domestic chores.<sup>449</sup> One sitting lady is winnowing grain in a winnowing basket. The basket is shallow and oblong with one of its sides rounded. In another scene a

male is shown with a similar winnowing basket but he is utilizing it for probably pouring fuel from the winnowing basket into the hearth.

### c. Lamp

Lamps of terracotta were used for lighting. A terracotta lamp of fine red ware with a pinched lip has been reported from Besnagar,<sup>450</sup> and a number of earthen lamps have been found from Atranjikhhera.<sup>451</sup> Small miniature bowls have been found from almost all sites and they could have been serving the purpose of lamps.

However, lamps-on-stand are shown in sculptures only, no piece has been found during excavations. In a relief from Bharhut<sup>452</sup> showing Māyā devi's dream, a standing lamp is shown with a heavy base to keep it steady. (Plate : XXXII-A). A second example is a hanging lamp.<sup>453</sup> It is shown in the basrelief of Ajātaśatru's visit to Buddha to show that it was night.

### d. Blades

Iron blades have been reported from some sites like Allahapur,<sup>454</sup> Chirand,<sup>455</sup> and Sonepur.<sup>456</sup>

### e. Knife

As today, knives were of great use from ancient times. Iron knives have been reported from a number of sites. All these knives are made of iron. The sites are Atranjikhhera,<sup>457</sup> Ganwaria,<sup>458</sup> Rājgir,<sup>459</sup> Śrāvastī,<sup>460</sup> etc. From Atranjikhhera thirteen iron knives have been reported (Plate: XXXIV-I). A wide variety of the shapes of blades suggest their diverse use. Four main types are as follows:

- (1) Straight blade, rounded tip; half of the but end slightly folded presumably for fixing a wooden handle.
- (2) Convex blade with slightly upturned tip, triangular cross-section.
- (3) Double edged blade; thin and sharp cutting edge; convex cross-section.
- (4) Rectangular outlines; short straight rectangular shaft; triangular cross-section.

From Śrāvastī (Plate : XXXIV-2, 3, 4) a knife blade of iron with a single cutting edge and a sharpened upper end with a tang for the handle and another knife blade with parallel sides were found.

From Ganwaria one iron razor was also found in addition to knives. From Oriup<sup>461</sup> a tortoise shell was found being utilized as knife.

In addition to all these knives fragment of a slate stone sharpener was found from Śrāvastī.<sup>462</sup> Its use for sharpening the blades was indicated by pronounced concavity on one of the sides.

### f. Tooth Pick

From Hastināpur,<sup>463</sup> a horn tooth pick is found belonging to Śunga period (Plate: XXXIV-12).

### g. Rod

Copper rods have been yielded from Atranjikhhera<sup>464</sup> and Sohagaura.<sup>465</sup> The Atranjikhhera find (Plate: XXXIV-5) appears to be a needle whose eye is missing due to heavy encrustation. Many ivory pigment sticks have been reported from Ujjain.<sup>466</sup>



### *h. Knitting Needles*

From Ujjain<sup>467</sup> ivory knitting needles have been found with a notched lower end.

#### *i. Stoppers*

From Hastinapur<sup>468</sup> and Atranjikhera<sup>469</sup> stoppers have been yielded. From Hastinapur they were made of bone and copper (Plate: XXXIV-6, 7) while Atranjikhera yielded nine terracotta stoppers. Probably these were to be used as corks of containers with cylindrical or conical stem and discoid or rounded top.

#### *j. Ferrule*

From Hastinapur<sup>470</sup> and Atranjikhera,<sup>471</sup> specimens of copper ferrules (Plate: XXXIV-8, 9) have been reported. From both places single specimens have been yielded. Probably these served as head-caps of wooden pole or stick with two nail holes on the sides. There are parallel grooves below the vertical strokes round the head.

#### *k. Bell*

Miniature bells have been reported from Hastinapur<sup>472</sup> and Pataliputra.<sup>473</sup> The specimens from Hastinapur (Plate: XXXIV-10, 11) were made of iron and copper while the one from Pataliputra was made of copper. Their exact purpose could not be ascertained.

#### *l. Fan*

Fans of different shapes and materials were in use. Cauri was one form of fan. It can be seen in many sculptural scenes of Sanchi, Bharhut (Plate: XXXII-A), Mathura (Plate: XVIII-A) and some Yakshas and Yakshis like Didarganj Yakshi (Plate: LXXII-A). One form of the fan is represented in scenes of hermitage in Sanchi.<sup>474</sup> The fan was in use for fanning the sacred fire in receptacle. It is a rectangular piece of mat with one side turned in having a side handle.

From Kauśāmbi<sup>475</sup> terracotta mould made figurines have been reported, holding fans. In one plaque she is holding a flower shaped fan while in other plaque the lady is holding a palm leaf fan. Similar terracotta figures have been reported from Mathura<sup>476</sup> (Plate: LXXXIV-A) and other places.

#### *m. Sling Balls*

Stone and terracotta slings balls have been reported from many sites during the course of excavation. The sites include Ahichchhara,<sup>477</sup> Bateśwara,<sup>478</sup> Besnagar,<sup>479</sup> Chirand,<sup>480</sup> Champā,<sup>481</sup> Hulas,<sup>482</sup> Jajmau,<sup>483</sup> Ujjain,<sup>484</sup> etc. These vary in shape and size. These might have been used by farmers to scare birds, monkeys etc. to save crops from them.

## **E. Pots and Pans**

### **1. Pottery**

Our period of study is characterised by the presence of wellknown delux pottery, popularly known as the Northern Black polished ware (N.B.P.W.).

Though generally it was believed that the pottery was main industry in the Maurya period, recent excavations have revealed that its beginning goes to *circa* 7th cent. B.C. Prior

to the rise of the Nandas it had its hay-day, though in later period, it had a wide distribution reaching beyond Gangā, in the South.

As we know, large number of settlements came to existence during the Maurya and Śunga period. Among them were Rājgir,<sup>485</sup> Kauśāmbī,<sup>486</sup> Kumrahar,<sup>487</sup> Pataliputra,<sup>488</sup> Śrāvastī,<sup>489</sup> Sonapur,<sup>490</sup> Vaiśālī,<sup>491</sup> Champā,<sup>492</sup> Purānā Qila,<sup>493</sup> Mathurā,<sup>494</sup> Ayodhyā,<sup>495</sup> Jajmau,<sup>496</sup> Rājghāt,<sup>497</sup> Prahādpur,<sup>498</sup> Atranjikhera,<sup>499</sup> Sohagaura,<sup>500</sup> Manwan,<sup>501</sup> Ahichchhatra,<sup>502</sup> Kayatha,<sup>503</sup> Oriup,<sup>504</sup> Masaon,<sup>505</sup> Sarai-Mohana,<sup>506</sup> Ruper,<sup>507</sup> Nāgdā,<sup>508</sup> Ujjain,<sup>509</sup> Noh,<sup>510</sup> Eran,<sup>511</sup> Chirand,<sup>512</sup> Ahar,<sup>513</sup> Balirajgarh,<sup>514</sup> Buxar,<sup>515</sup> Besnagar,<sup>516</sup> Taxilā,<sup>517</sup> and Tripurī.<sup>518</sup> Simultaneously the earlier important towns of the sixteen Mahā janapadas lost their importance. With the spread of trade and commerce as well as Buddhism, this ware reached different parts. The Buddhist monks carried these pots with them as begging bowls.

Although the ware has been reported from several sites in central and western India and from Deccan, there is not a single site which has yielded the N.B.P.W. in any considerable number, the only exception is Ujjain.<sup>519</sup> Even at Ujjain the ware has distinctly an inferior quality as compared to its counterparts in the north.<sup>520</sup> It appears that its nuclear centre was in Bihar and Eastern U.P. Rājgriha,<sup>521</sup> Vaiśālī,<sup>522</sup> Kauśāmbī,<sup>523</sup> Rājghāt,<sup>524</sup> and several other sites have yielded a variety of types and colours.<sup>525</sup>

Among the sites where N.B.P.W. has a definitely early date are Rājgir,<sup>526</sup> Vaiśālī,<sup>527</sup> Rājghāt,<sup>528</sup> Śrāvastī,<sup>529</sup> Kauśāmbī<sup>530</sup> and Taxilā.<sup>531</sup> Here it belongs mainly to a date bracket of 550 - 250 B.C. Sites like Hastināpur,<sup>532</sup> Atranjikhera,<sup>533</sup> Kumrahara,<sup>534</sup> and perhaps Ruper<sup>535</sup> and Ujjain<sup>536</sup> belong to a later date bracket (350-50 B.C.) The NBPW found in the period of our study belongs to the second phase of NBPW which comes roughly to the close of 1st cent B.C. or at least 50 B.C. Thus the spread of N.B.P.W. is from Rājgriha to Taxilā in the north and reaches Amarāvati and Karad in the South.

Some of the broken fragments found at Bairat Ruper and Besnagar show repairs being executed locally by means of copper wires and rivets proving that this pottery was at that period and in that particular social stratum where the articles were used, considered valuable and was not easily replacable.<sup>537</sup> NBP wares rivetted with copper wires are also found from Kumrahar.<sup>538</sup> The ware moved from its Eastern U.P. centre to the west is proved by the fact that while at Kauśāmbī in the NBP levels 50% of the sherds belonged to the NBP class. Hastināpur and Atranjikhera have yielded much less NBP ware and Taxilā yielded hardly 25% of NBPW sherds from NBP level.<sup>539</sup>

Other associated ware, were the thick grey ware, the black slipped ware and the red ware of various shapes. From Vaiśālī<sup>540</sup> a few sherds of buff ware having fine fabric were reported. The shapes included bowls and dishes. Though PGW was an important component of the pottery complex during the Pre-Maurya period, it gradually decreased and almost disappeared by the Maurya period. The grey ware also became cruder and thicker with gritty core and often having blackish surface. The pots of the black slipped ware were generally of medium fabric. The surface lustre of this ware varies in shade. Some of them are as shining as the NBPW. It appears in the process of reducing the black slipped ware, the NBP was produced at a very high temperature. This hypothesis appears convincing since the ware preceded the NBPW, its origin goes back, a pre PGW black and red ware phase. It should be recalled here that the ware was also found in the Harappan context. The basic difference between the black slipped and NBPW is that in case of the former, below the shining surface was a greyish core as found at Bhāradwāja Aśram<sup>541</sup> while in the latter case it is of double slip, the lower one being of reddish colour as found at Atranjikhera.<sup>542</sup>

So far as the red ware is concerned, they were also of medium fabric. Majority of them were either unslipped or treated with a wash. Use of mica in potteries was commonly noticed. NBPW of the period has a strikingly polished surface having almost a lustrous metallic finish, and ranges in colour from coal black through steel grey or silver to golden. The exterior surface of some of the pots shows patches of reddish brown or sepia. In the same fabric deep red and chocolate colours are also achieved. The core is usually grey but tends to be reddish in some cases where below the thin films of shining black a mat red surface is seen.<sup>543</sup> Thus from most of the north Indian sites, more than 80% of the specimens were quite definitely black. Only 20% varied in colour. There are three categories of colour variations.<sup>544</sup>

- (1) Intentional black or other colour,
- (2) Accidental non-black, and
- (3) Intentional non-black.

Perhaps more than 80% of the total collection of NBP comes under the first category. This would leave only insignificant minority of specimens which might have been intended to be non-black.<sup>545</sup> Sometimes these have the combination of two colours, one offering a background in contrast to the other. Several examples of such pots have been reported from Hastinapur.<sup>546</sup> It was applied before firing thus retaining its value even today.<sup>547</sup> These include—

- (1) Dark steel blue and deep red,
- (2) Black and dark brown,
- (3) Grey and light red,
- (4) Black and pale red, and
- (5) Black and ash grey.<sup>548</sup>

Some sherds at Rājgir show a dull to bright yellowish hue.<sup>549</sup>

#### *a. Technique*

The NBP ware is invariably potted on a fast wheel. During this period the use of potter's wheels is quite common. Pottery discs have been reported from some of the sites during excavations. Among them are Prahlādpur,<sup>550</sup> Rājghāt,<sup>551</sup> Takiapur,<sup>552</sup> Atranjikhēra,<sup>553</sup> and Ujjain.<sup>554</sup> Terracotta pottery discs from Ujjain and Rājghāt were either unperforated or with single or double perforations. While from Atranjikhēra the discs reported were either in red, grey or black slipped ware. They were sometimes irregular circular in shape. Sometimes they had ground edges and some with perforation in the centre. In addition to pottery discs, potters stamps and dabbers have also been reported from a number of sites. Terracotta potter's stamps have been reported from Ganwaria,<sup>555</sup> Śrāvāsu,<sup>556</sup> Ujjain,<sup>557</sup> Noh,<sup>558</sup> etc. while dabbers have been reported from Rājghāt,<sup>559</sup> Ganwaria,<sup>560</sup> Masaon,<sup>561</sup> Katragarh,<sup>562</sup> Atranjikhēra,<sup>563</sup> Autha,<sup>564</sup> Ujjain,<sup>565</sup> and Vaiśālī.<sup>566</sup> All the sites except Ujjain produced terracotta dabbers. From Ujjain a stone dabber belonging to Maurya period was reported. Terracotta dabbers from Atranjikhēra varied in size, colour, fabric and surface treatment. All were conical in shape having knob like rounded top and flattish or sagger base.

The ware is normally thin with a highly lustrous surface. The paste is consistently fine and well levigated and contains very little of tampering material.<sup>567</sup> "It appears that after being turned on the wheel, the pots were subjected to elaborate burnishing and then coated with a finely levigated, highly ferruginous clay, and again burnished. It appears that they were then fired under reducing conditions to a temperature producing an incipient fusion of the slip,

accounting for their exceptional hardness and lustre."<sup>568</sup> This surface lustre and sometimes paintings on them show the high aesthetic taste of the people. The pottery is apparently strainproof and has a hard surface, difficult to scratch.

Some indications about the production of this ware is found in contemporary literary sources also, for example the metallic sound of the earthen ware (Vinayapitaka), use of slip and burnishing (upadisutta) etc. are referred to.<sup>569</sup> There is a reference to Halāhal, a woman potter of Śrāvastu of the 5th cent. B.C., who is described as a patron of Ajivak sect in Pali literature. It indicated to the prosperity of a potter's family in that period which most probably continued till the ware survived.<sup>570</sup>

According to Hegde (1966), the gloss on the ware is due to the use of Sajji soil while Dr. B. B. Lal thought that the shining lustre was produced by putting the hot pot into an organic solution (Lal, 1955-56).<sup>571</sup>

It is also presumed that the NBPW was produced first at some PGW site where the NBPW phase followed the former, without any break and where the iron was already in use. Later on, it flourished in the iron rich area in Bihar. Here the soil from which the ware was manufactured contained the iron content. This hypothesis gets support by the find of a few sherds having lustrous surface only on one side and leaving the other side grey.<sup>572</sup> Examples of pots showing slip defects have also been reported from Prahādpur.<sup>573</sup> An example of crazing<sup>574</sup> has been illustrated by a fragment of a convex sided dish in which the black slip did not suit the body, therefore, it has shrunk more than the body and fine cracks have developed all over the surface of the ware. Another example of slip defect known as sealing<sup>575</sup> has been found in a fragment of a convex sided bowl, the black slip applied over the body has not shrunk as much as the body and hence it has peeled off at some places.

### b. Decorations

Some sherds of NBPW from different sites show different types of decorations on them (Plate: LII). These decorations are good examples of aesthetic sense among the people of the period. Following are some common types of decorations:

#### (i) Applique Designs

This group of decoration consisted of conventionalized designs like tree pattern, fingertip and rose pattern.

#### (ii) Stamped Designs :

These show leaf, floral<sup>576</sup> and triratna symbols. In one case at Rajghat<sup>577</sup> over a rectangular railing, a triratna, Dharmacakras and a hollow cross were beautifully stamped. Some pots of Alamgirpur<sup>578</sup> and Ruper<sup>579</sup> were also stamped. At the latter site interesting symbols including *nandipada* were found stamped. Stamped decorations consisting of concentric circles, dots in a circle, cakra (wheel) are found on many pots found from Śrāvastu<sup>580</sup> and Hastināpur.<sup>581</sup> An interesting N.B.P. dish fragment was found from Purānā Qila,<sup>582</sup> New Delhi showing stamped figure of an elephant (Plate: LIII-1) on inner base.

During the course of my study of pottery collection from various sites at Purānā Qila, New Delhi, I observed that at Ahichchhatra<sup>583</sup> generally dull red ware were found having thin fabric and well fired. Some of these were decorated with stamped motif like Swastika, leaf, circle, fish, flower, etc. At Ujjain<sup>584</sup> also the floral motifs were stamped on pots.

#### (iii) Incised Designs : (Plate LI).

This type of decoration comprises vertical lines or lines around the neck or shoulder of

a pot. A spout of a pot from late level at Rajghat<sup>585</sup> bears a makara mukha at the luting point. The pot itself was decorated with a stamped triratna symbol and a row of petal like designs, incised geometrical designs from Rajghat<sup>586</sup> were of simple nature. Some bowl pieces from Kauśāmbī<sup>587</sup> were also incised externally with tree patterns. On one grey ware sherd from Champa,<sup>588</sup> an incised human face was noticed.

#### (iv) Cut Designs

The sherds from Rajghat<sup>589</sup> representing the cut mode of decoration are found. In this device the designs were cut by some instrument and the pots were leather hard. These designs were also made on the slipped surface of red ware.<sup>590</sup> A common pattern was triangular notches on the rim shoulder or body, a set of two concentric triangular notches with stamped floral designs.<sup>591</sup>

#### (v) Painted Designs (Plate : LI)

Some early specimens of NBPW from Sarai Mohana<sup>592</sup> and Kauśāmbī<sup>593</sup> were painted with rim bands, oblique lines, arches, triangles, etc. Bodies of some pots from Śrāvastī<sup>594</sup> were covered with simple reed impressions. Some red pottery from Ālamgirpur,<sup>595</sup> Rājgir,<sup>596</sup> and Katragarh,<sup>597</sup> were found painted with black over the body shoulder and neck depicting circular and semicircular lines intersecting each other. One sherd from Champa<sup>598</sup> was found painted in pink pigment. Fragments of dishes from Prahāḍpur,<sup>599</sup> were found having paintings both internally and externally. They depict generally strokes of uneven thickness or oblique dashes, sometimes the rim bands. From Ujjain<sup>600</sup> painted patterns in an orange or saffron coloured pigment on sherds were found. One sherd had a black painted bound on exterior and interior alike.

### c. Classification of Pottery

Pottery of this period is simple, utilitarian with negligible decorations. In NBP, mostly bowls and dishes were produced. While in red ware generally miniature bowls, jars with different types of necks pear-shaped vessels, necked vases, basins with nail headed rim were produced at Śrāvastī.<sup>601</sup> Similar pots were also produced from Rājgir, Taxila and Hastināpur. At some sites like Prahāḍpur,<sup>602</sup> sherds of black and red ware were also noticed. At Rājgir,<sup>603</sup> the period between 5th to 2nd century B.C. is characterised by presence of NBP ware, with which is associated black and black and red pottery. Usually bowls and dishes are found. NBPW and Black wares share same shape indicating their common origin and purpose. From Hastināpur<sup>604</sup> also the shapes are very simple like dishes with incurved or straight sides, bowls with straight, convex, corrugated or tapering sides, lids with flat terminals and sharply carinated handis.

The pots may be broadly classified into following groups:

1. Bowls including miniature bowls (Plates: XXXV; XXXVI; XXXVII).
2. Lids (Plate XLVIII - 1 to 10).
3. Dishes (Plate: XXXVIII).
4. Basins (Plates: XLII; XLIII; XLIV; XLV-1, 2)
5. Troughs (Plate: XLV-3, 4; XLVI - 6 to 8).
6. Sieves (Plate: XLVIII-11).
7. Storage jars (Plate: XLVII).
8. Vases (Plates: XXXIX; XL; XLI).

9. Water jars (Plate: XLIX).
10. Cooking pots.
11. Containers.

Besides these, large number of miniature pots (Plate : L), jar-stands (Plate : XLVI-1 to 5) and occasionally bowl on stand were found. Some pots had spouts of various types. Those pots which were well finished, and nicely polished were most probably used in the kitchen or storing food items.

Different types of bowls have been reported. From Ahichchhatra<sup>605</sup> large open bowls have been reported. From Hulaskhera,<sup>606</sup> Ālamgirpur<sup>607</sup> and Atranjikhhera<sup>607</sup> bowls with in turned rims have been reported. Katrararh<sup>608</sup> and Balirajgarh<sup>609</sup> have yielded lid cum bowls. From Hulas<sup>610</sup> Ahichchhatra<sup>611</sup> and Jajmau<sup>612</sup> straight sided bowls have been excavated. Katrararh<sup>613</sup> Ahichchhatra,<sup>614</sup> and Patnā<sup>615</sup> have reported lipped bowls. In Prahādpur,<sup>616</sup> the corrugation is widely/spaced. Sometimes the corrugations are not prominent. Rājghāt<sup>617</sup> has yielded various types of vases having externally thickened featureless rim, those with everted rim, out turned rim, externally protruded rim etc. Vases with concave neck and obaloid profile were also found from Rājghāt.<sup>618</sup> Pear shaped vases have been found from Ahichchhatra,<sup>619</sup> Atranjikhhera,<sup>620</sup> Balirajgarh,<sup>621</sup> Hulas<sup>622</sup> and Katrararh.<sup>623</sup> From Ālamgirpur<sup>624</sup> an elongated pear shaped vase having flat base and a lid(?) with lamps along the rim has been reported. Storage jars have been found at Katrararh,<sup>625</sup> Ahichchhatra,<sup>626</sup> and other sites. Coarse red ware large storage jars with high necks have been found from Prahādpur,<sup>627</sup> Hulas<sup>628</sup> and Hulaskhera<sup>629</sup> and those having short and constricted neck were found at Prahādpur.<sup>630</sup> From Vaiśālī<sup>631</sup> narrow mouthed sprinkler jar and narrow necked globular jar have been found. From Prahādpur<sup>632</sup> some sherds identified as lids. They have knobs having decorations. One coarse NBP piece had a prominent knob with concentric groves. Lids with prominent flanged waist were found at Rājghāt.<sup>633</sup> From Vaiśālī<sup>634</sup> a hollow lid with vase shaped knob was reported. Hulaskhera<sup>636</sup> and Kayatha<sup>637</sup> have reported inkpot/type lids in red ware. Lids have also been found from Hulas.<sup>638</sup> Nail headed and lipped basins or Kadḥahis have been found at Ālamgirpur<sup>639</sup> while at Baliraj garh<sup>640</sup> pans with handles have been found.

A small spouted pot in red ware is found from the Śunga level at Purānā Qilā,<sup>641</sup> Delhi depicting anthropomorphic figure (Plate LIII-2). Spouted vessels have also been excavated from Balirajgarh,<sup>642</sup> Hulas<sup>643</sup> and Katrararh.<sup>644</sup> The vessel from Katrararh had decorated spout.

From Rājghāt<sup>645</sup> a complete specimen of *damaḍu* (sand glass) shaped stand was found having a flat hollow base. Fragment of a bowl resting on a stand was found.

From Prahādpur<sup>646</sup> some fragments in red ware were found having perforations, indicating that they were either parts of some sieve or of a pot meant for hanging.

BOWLS  
PLATE - XXXV

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
N.B.P.W.				
HASTINAPUR				
III/B-3	Out turned featureless rim	Bluntly carinated to a rounded base	Steel grey in colour	Mid-level (C)
III/B-5	Featureless rim	Progressively widening sides and carination above the convex base.	—	Unstratified
III/B-6	—	Footed base.	Golden colour	(C)
ATRANJIKHERA				
GROUP A				
IV/B-31	Inturned and thickened internally, 19.8 cm.	Convex sides	Fine fabric having black lustrous surface.	IV-C.
GROUP D				
IV/B-38	Prominently out turned and featureless; 15.7 cm.	Roughly convex sides	Fine fabric having polished lustrous surface. A thin rib externally.	IV-C.
PRAHLADPUR				
I/B-T9A	Flanged bowl, diameter 16.7 cm. Featureless rim edge and the flange below the rim are not so prominent.	—	—	IB
ATRANJIKHERA				
GROUP B				
IV/B-35	Slightly out curved and sharpened internally; 20.9 cm.	Tapering sides.	Fine fabric, steel grey in colour.	IV-D

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
<i>Grey Ware</i>				
HASTINAPUR				
III/B-7	Horizontally splayed outrim.	Flat base	Fine fabric unslipped	Early level (C)
III/B-9	Flared featureless rim	Wavy profile having two grooves in the middle.	Finer fabric treated with a black slip externally.	Late Level (D)
ŚRĀVASTI				
II/B-2	Featureless rim	Disc base	Coarse fabric no slip or wash.	Mid-level.
ATRANJKHERA				
GROUP B				
IV/B-8	Incurved and featureless; 24.0 cm.	Incurved sides	Coarse fabric unslipped.	IV-C.
GROUP F				
IV/B-18	Roughly out curved and featureless, 11.8 cm.	Almost straight sides expanded in the lower part.	Medium fabric treated with a slip.	IV-D
GROUP G				
IV/B-19	Out curved and featureless having a prominent depression below the rim; 13.9 cm.	Sides concave in the upper part and roughly vertical in the lower part.	Fine fabric, treated with a wash and a grooved rib externally.	IV-D
GROUP H				
IV/B-20	Splayed out and featureless having slight depression below the rim externally; 11.0 cm.	Splayed-out sides and flattish base.	Fine fabric, unslipped.	IV-D
PLATE NO. - XXXVI				
<i>Red Ware</i>				
HASTINAPUR				
III/B-11	Vertical and externally rebated rim	Corrugated straight sides, carrinated near flattish base.	Medium fabric unslipped	Early level (C)
III/B-10	Horizontally splayed out concave rim	—	Fine fabric, slipped externally.	Early level (C)



Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
III/B-12	Vertical featureless rim	Bluntly carinated to a rounded base	Medium fabric, unslipped.	Mid-level
ŚRĀVASTI				
II/B-4	Horizontally splayed out rim.	Flat base.	Medium fabric treated with a brick red slip on both sides.	Early level (C)
II/B-3a	Shallow bowl with thickened rim.	—	Medium fabric treated with a wash. Shows an impression of an uninscribed cast coin showing the crescent over hill symbol.	Early level (C)
II/B-5	Sharpened rim	Vertical sides and rounded base.	Dull red and thin fabric devoid of any slip or wash. Unevenly shaped.	Mid-level (C)
II/B-7	Bowl cum lid	Tapering sides and flat base	Medium fabric treated with a brownish red slip on both sides.	Mid-level
ATRANJIKHERA				
GROUP A				
IV/B-42	Splayed out and featureless 16.8 cm.	Roughly tapering sides, slightly bulging in the middle.	Red ware of coarse fabric with a slip.	IV-C.
GROUP C				
IV/B-59	Incurved having flattened top with a slight depression in the middle and thickened internally; 18.0 cm.	Roughly convex sides incurved towards the base.	Medium fabric, treated with a slip.	IV-C.
IV/B-62a	Roughly outcurved and slightly thickened externally; 13.3 cm.	Incurved sides	Fine fabric treated with a wash.	IV-C.
GROUP F				
IV/B-66	Slightly outcurved and clubbed externally; 18.0 cm.	Globular sides.	Medium fabric, treated with a slip. Two parallel grooves in the upper part externally.	IV-C.
RĀJGHĀT				
II/B-2	Internally pressed well thickened tapering rim	Sides progressively thickened towards a flat base.	—	II

Note : Type is rare but continues in period III profusely.

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
------	----------------------	---------------------	---	--------

ATRANJIKHERA

GROUP B

IV/B-51d	Slightly intumed and sharpened 11.2 cm.	Incurved sides and flat base.	Coarse fabric, unslipped.	IV-D.
IV/B-56	Vertical and roughly pointed; 13.6 cm.	Incurved sides and flat base with cord marks.	Medium fabric, treated with a slip.	IV-D.
IV/B-64	Splayed out having flattened top; 18.8 cm.	Incurved sides	Medium fabric, treated with a wash.	IV-D.

Plate No. - XXXVII

*Red Ware*

ATRANJIKHERA

GROUP G

IV/B-69	Obliquely out projected and featureless; 17.4 cm.	Convex sides and rounded base.	Medium fabric treated with a slip.	IV-D
---------	---	--------------------------------	------------------------------------	------

GROUP I

IV/B-74	Bowl with closing mouth having prominently intumed and featureless rim; 10.5 cm.	Outgoing sides carinated to a flattish base.	Medium fabric treated with a slip.	IV-D
---------	--	--	------------------------------------	------

GROUP J

IV/B-76	Slightly outcurved just below the rim; 8.5 cm.	Flaring sides having wavy profile internally.	Medium fabric, unslipped. Deep parallel grooves internally.	IV-D
---------	--	---	---	------

*Black Slipped Ware*

ATRANJIKHERA

GROUP A

IV/B-22	Flattened top, slightly projected internally 23.0 cm.	Roughly incurved sides.	Medium fabric. A mild groove below the rim externally.	IV-D
---------	---	-------------------------	--	------

Note : Smaller shape with fine fabric also present 10.2 cm. (1V/B25).

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
GROUP B				
IV/B-26	Nail headed rim with prominent projection externally; 20.0 cm.	Roughly straight sides.	Medium fabric parallel wide grooves below the rim and a rectangular design with diagonals cutting each other.	IV-D
IV/B-28	Vertical and featureless; 12.5 cm.	Straight sides	Fine fabric having ribs and grooves externally.	IV-D
PRAHLADPUR				
I/B-T3C	Diameter 15.6 cm. Four grooves, two externally & two internally. Sub-ovoidal with a rudimentary lip.	Narrow mouth, body slightly bulged.	—	IB.
I/B-T3E	Sub-ovoidal with a small lip, diameter 12.2 cm. Rim edge which is out turned and progressively sharpened, has resulted in the formation of a small lip.	Sides uniformly thickened. Mouth narrow.	—	IB.
I/B-T7B	Corrugated bowl. Diameter 13.3 cm. It has a slightly out turned and thinner rim.	—	—	IB.
<i>Black and Red Ware</i>				
PRAHLADPUR				
I/V-T1E	Diameter 8.9 cm. Rim edge externally grooved and very sharply and deeply bevelled.	Sides uniform in thickness and bulging. Base almost round.	—	IB.
Plate No. - XXXVIII				
DISH				
<i>NBP Ware</i>				
ATRANJIKHERA				
GROUP B				
IV/D-20	Inturned and featureless; 27.0 cm.	Rounded in the lower part	Fine fabric with lustrous golden black surface.	IV-D

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
<i>Grey Ware</i> ŚRĀVASTI				
II/D-6	Featureless rim	Flat base	Medium fabric no slip or wash	Lower level
II/D-7	Featureless rim	Convex sided	Thick greyware medium fabric no slip or wash.	Mid-level
ATRANJIKHERA				
GROUP D				
IV/D-10	Inturned and featureless; 23.7 cm.	Sides rounded in the middle.	Coarse fabric; unslipped.	IV-C
GROUP E				
IV/D-11b	Inturned and featureless; 16.8 cm.	Expanding sides and flattish base.	Coarse fabric, treated with a slip externally.	IV-C
Note : This shape continues from subphase B at Atranjikhhera.				
IV/D-6	Prominently in curved and featureless; 28.3 cm.	Bulging sides rounded to an imperfect sagger base with a depression at the junction of sides and base.	Dark grey, fine fabric; treated with a slip.	IV-D
GROUP B				
IV/D-7	Inturned rim; 27.8 cm.	Convex sides, prominently carinated to a sagger base having a depression externally just below the carination.	Fine fabric, unslipped.	IV-D
IV/D-10a	Inturned and featureless; 22.8 cm.	Roughly rounded sides and flattish base.	Medium fabric, treated with a blackish slip externally.	IV-D
<i>Red Ware</i> HASTINĀPUR				
III/D-14	Vertical featureless rim weakly ribbed internally.	—	Medium fabric unslipped.	Mid-level.
III/D-15d	Closing rim	Prominent rib towards carinated sagger base.	Medium fabric slipped on both sides.	Mid-level.

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
------	----------------------	---------------------	---	--------

ATRANJIKHERA

GROUP D

IV/D-30	Slightly intumed and featureless; 24.6 cm.	Straight sides with a mild rib externally, rounded to a sagger base.	Medium fabric treated with an orange-red wash.	IV-C
---------	--	--	--	------

ATRANJIKHERA

GROUP A

IV/D-24	Intumed and featureless; 29.6 cm.	Expanding sides	Fine fabric, treated with a brownish slip.	IV-D
---------	-----------------------------------	-----------------	--	------

GROUP B

IV/D-27a	Slightly intumed and sharpened internally; 19.8 cm.	Roughly convex sides.	Medium fabric, treated with a slip externally.	IV-D
----------	---	-----------------------	--	------

Note : This shape is found in the earliest phase (A) at Atranjikhera.

Plate No. - XXXIX

CARINATED  
HANDI/VASES

NBPW

HASTINAPUR

III/V-10	Almost horizontally closing featureless rim.	Carinated to a rounded base	Thin section	Mid level (C)
----------	--	-----------------------------	--------------	------------------

Note : This type occurs both in thick grey and red ware and is also available at Kausāmbi, Ahichchhatra, Vaisāli, Jhusi, Lacchagiri, Bhita and Bhir mound Taxila.

Red Ware

HASTINAPUR

III/V-29	Closing featureless rim.	—	Dull red coarse fabric with busk and gritt, unslipped.	Mid level (C)
III/V-39	Out-turned externally thickened rim with a narrow mouth.	Concave neck and a weakly corrugated oblique shoulder.	Medium fabric treated with a wash.	Mid-level (C)
III/V-40	Out-turned thickened rim	Concave neck and a flattened sagger base.	Fine fabric treated with a slip.	Early level (C)
III/V-41	Out turned featureless rim	Bluntly carinated rim. A gold rib below the shoulder and a convex base	Medium fabric, unslipped lot of mica distinguished.	Early level (C).

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
III/V-51	Carinated handi closing featureless rim.	Rounded base	Medium fabric unslipped	Early level (C)
Note : Its variant is found in NBP and Grey Ware also.				
III/V-44	Narrowing featureless rim	Perforated at the shoulder with a ring of holes	Medium fabric, unslipped	Mid-level (C)
III/V-49	Spouted vase with a vertical rim.	Rounded base, lugg handle opposite the spout.	Pale red fine fabric. Treated with a wash.	Early level (C)
ŚRAVASTI				
II/V-26A	Carinated handi with external oval collared rim.	—	Coarse fabric devoid of slip or wash. Inside portion has burnt grey.	Upper level
Plate No. - XL CARINATED HANDI/VASES Red Ware ŚRAVASTI				
II/V-28	Shaped like a Kamandalu having a boldly grooved strap handle at the top.	—	Medium fabric, treated with a bright red slip.	Lower level.
Note : Also occurs in grey ware in the same level. (V-15).				
ATRANJIKHERA GROUP Q				
IV/V-45	Slightly outturned and thickened externally; 8.6 cm.	Undefined neck, oblong sides and rounded base.	Red ware of medium fabric, treated with a wash.	IV-D
Note: Another specimen with flat base in unslipped coarse fabric.				
GROUP A				
IV/V-2	Outturned, nail headed rim; 15.8 cm.	Roughly concave neck.	Red ware of medium fabric.	IV-D
GROUP B				
IV/V-4	Vertical externally thickened and collared with flattish top; 15.7 cm.	Concave neck	Red ware of coarse fabric, treated with a wash. Prominent parallel grooves externally.	IV-D

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
------	----------------------	---------------------	---	--------

Note : V-6 resembles it but has slightly inturned, featureless rim. Has husk marks and the deep grooves from prominent ridges below.

## GROUP C

IV/V-8	Out turned beaded rim having a wide groove externally; 18.0 cm.	Concave neck	Red ware of coarse fabric treated with a slip.	IV-D
--------	---	--------------	--	------

## GROUP E

IV/V-14	Flaring mouth and elliptically thickened collared rim; 16.5 cm.	Concave neck	Red ware of coarse fabric treated with a slip.	IV-D
---------	---	--------------	--	------

## GROUP F

IV/V-19	Rim having flattened top projected externally; 14.0 cm.	Vertical high neck.	Dull red ware of medium fabric, treated with a wash.	IV-D
---------	---	---------------------	--	------

## GROUP G

IV/V-24	Slightly incurved and bevelled internally having convex shape in the upper part and concave in the lower; 15.0 cm.	Out curved or concave neck.	Dull red ware of medium fabric, treated with a slip. A prominent groove externally.	IV-D
---------	--	-----------------------------	---	------

## GROUP J

IV/V-31a	Slightly outcurved, obliquely nail headed and collared; 12.0 cm.	Elongated neck having a slight concavity.	Red ware of coarse fabric, unslipped.	IV-D
----------	--	---	---------------------------------------	------

Note : A variant of it was also present in sub-phase B of the same period (IV) at Atranjikhhera.

## GROUP L

IV/V-33a	Almost vertical, slightly incurved, thickened and collared; 10.0 cm.	Shorter neck, pear shaped oblong sides and rounded base.	Dull red ware of coarse fabric unslipped.	IV-D
----------	--	--	---	------

Note: This type continued throughout sub-phase B and sub-phase C of the same period at Atranjikhhera.

## GROUP N

IV/V-37	Out turned, collared and externally thickened; 11.6 cm.	Out curved, neck, roughly oblong body and sagger base.	Red ware of coarse fabric unslipped.	IV-D
---------	---	--	--------------------------------------	------

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
------	----------------------	---------------------	---	--------

## GROUP S

IV/V-48	—	Concave neck, rounded sides having a projected spout below the neck & roughly sagger base.	Red ware of medium fabric treated with a slip.	IV-D
---------	---	--	--	------

Plate No. XLI

## VASES

Red Ware

## ATRANJIKHERA

## GROUP B

IV/V-7	Horizontally out projected collared rim with flattened top and a prominent ridge externally; 11.0 cm.	Concave neck	Red ware of medium fabric, treated with a slip.	IV-C
--------	---	--------------	---	------

Note : Cf. XXXIC Hastinapur III-p. 60.

## GROUP E

IV/V-16	Flaring mouth having a collared rim with a ridge externally and a depression below the rim internally; 11.0 cm.	Roughly concave neck.	Red ware of fine fabric, treated with a wash.	IV-C
---------	---	-----------------------	---	------

## GROUP R

IV/V-47	Out curved and featureless; 7.7 cm.	Prominent ridge above the neck forming a depression internally and pear shaped oblong sides.	Black slipped externally and grey internally, medium fabric.	IV-C
---------	-------------------------------------	--	--	------

## RAJGHAT

II/V-23	Externally protruded deeply grooved rim with flat top surface.	A short concave neck.	—	II
II/V-27	Featureless sloping in rim top.	Expanding mouth; a long narrow bottle-neck and a prominent concentric rib on the shoulder.	—	



Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
II/V-28	Internally obliquely cut featureless rim.	Expanding mouth. Prominently ridge concave neck, an elongated ovoidal internally corrugated body and a thick flat base.	—	II II
Note : It is unique in shape.				
II/V-29	Everted featureless rim.	A long vertical neck corrugated internally.	—	II
II/V-34	Externally obliquely cut rim.	Short neck, globular profile and a depressed base.	—	II
Note : It is partly wheel made and partly hand made. A Complete Specimen.				
<i>Black Ware</i>				
ŚRAVASTI				
II/V-10	Carinated hāndi	Closing sides and rounded base.	Fine fabric, treated with a black slip over a burnished surface	
Plate No. XILII				
BASIN				
<i>Red Ware</i>				
HASTINĀPUR				
III/BN-21	Vertical nail headed rim having circular notches on the top.	—	Medium fabric treated with a red slip.	Early level (C)
Note : Its variants have loop handle and triangular notches.				
III/BN-28	Inturned, externally grooved and elliptical collared rim.	Roughly convex sides.	Dull red, indifferently fired, medium fabric, unslipped.	Mid-level (C)
Note : The variant of this shape with fine slip and sometimes having oval-collared rim are also found. This type has been borrowed from period II (PGW).				
ŚRAVASTI				
II/BN-18	Handled basin with a nail headed rim.	The stump of the broken loop of handle is seen below rim portion.	—	Early level
II/BN-22	Externally collared rim and is distinguished by a lip.	—	Medium fabric, treated with a wash only on outer side.	
Note : It has a closer affinity with the lipped basins from Hastinapur (Period III).				

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
ATRANJIKHERA				Upper level
GROUP A				
IV/BN-2	Horizontally splayed out and featureless; 32.5 cm.	Shallow basin with prominent incurved sides.	Black slipped ware of medium fabric. Grooves on the top of the rim.	IV-C
GROUP C				
IV/BN-6	Inturned, collared and obliquely thickend rim; 33.5 cm.	Incurved sides and flattish base.	Red ware of medium fabric, treated with a slip.	IV-C
Plate No. XLIII				
BASINS				
<i>Red Ware</i>				
ATRANJIKHERA				
GROUP F				
IV/BN-14	Inturned and nail headed; 32.3 cm.	Incurved sides.	Red ware of medium fabric, treated with a slip on both the sides.	IV-C
Note: A variant of it is available in Sub Phase D.				
GROUP M				
IV/BN-26	Nail headed, slightly bevelled internally, distinguished by a lug handle; 33.5 cm.	Vertical sides inturned towards the base.	Red ware of medium fabric mixed with mica-particles treated with a wash.	IV-C
IV/BN-29	Out turned roughly headed rim, bevelled internally with a depression in the middle and having a lipped spout, 32.0 cm.	Tapering sides	Red ware of medium fabric with fabric thick section and slipped on both the sides.	IV-C
Note : Another variant with nail headed rim is also available; still another one with nail headed rim and convex sides both in Red ware. One in Grey ware is with inturned rim and incurved sides bulging in the middle.				
IV/BN-35a	Incurved and roughly beak shaped having a mild groove in the middle, distinguished by well moddied, lipped spout; 16.0 cm.	Roughly convex sides.	Red ware (Yellowish) of fine fabric, treated with a slip on both the sides.	IV-C
GROUP A				
IV/BN-1	Slightly flaring and featureless; 39.0 cm.	Shallow basin with prominently incurved sides.	Red ware of medium fabric treated with a wash.	IV-D

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
------	----------------------	---------------------	---	--------

IV/BN-3b	Nail headed rim; 28.5 cm.	Shallow basin with roughly incurved sides.	Red ware of coarse fabric, unslipped.	
----------	---------------------------	--	---------------------------------------	--

Note : This shape is also available in phase C.

#### GROUP E

IV/BN-10	Inturned, collared and obliquely thickened rim; 34.0 cm.	Roughly convex sides.	Red ware of medium fabric treated with a wash.	IV-D
----------	--	-----------------------	--	------

Note : A variant of it is available in phase C.

#### GROUP L

IV/BN-25	Flaring and nail headed; 22.2 cm.	Tapering sides	Red ware of coarse fabric, mixed with husk having black core, treated with a wash.	IV-D
----------	-----------------------------------	----------------	--	------

Plate No. XLIV

BASIN

Red Ware

ATRANJIKHERA

#### GROUP M

IV/BN-27	Nail headed rim distinguished by a loop handle having two pointed projections at either ends; 30.0 cm.	Incurved sides and sagger base.	Red ware of medium fabric treated with a slip on both the sides.	IV-D
----------	--	---------------------------------	--	------

Coarse Red Ware

PRAHLADPUR

I/BN-T1F	Diameter 13.6 cm.; globular body. Rim not thickened near the neck.	Thick walled constricted neck.	—	IB
----------	--	--------------------------------	---	----

I/BN-T2E	Medium sized vase diameter 12.2 cm.	Concave neck corrugated externally.	—	IB
----------	-------------------------------------	-------------------------------------	---	----

Red Ware

RAJGHAT

II/P-9	Externally protruding rim with an applique loop handle having two rudimentary horn like devices on either side.	—	—	
--------	---	---	---	--

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
<i>Grey Ware</i>				II
HASTINAPUR				
III/BN-25	Inturned and externally collared rim below which is oblique incised notches.	—	Medium fabric dark grey, treated with a black slip on both sides.	Early level (C)
III/BN-30	Inturned featureless rim.	Eye shoulders and expanding sides.	Fine fabric, slipped externally. Incised scale pattern below the shoulder	Early level (C)
Plate No. XLV				
BASIN				
<i>Grey Ware</i>				
HASTINAPUR				
III/BN-27	Inturned, externally collared rim.	Internally ledged base with six perforations.	Medium fabric unslipped.	Mid level (C)
III/BN-24	Inturned externally round collared rim distinguished by a lip.	Sagger base (?)	Medium fabric treated with a darkish slip on both sides.	Mid level (C)

Note : This shape is common at Kauśāmbi, Lacchagiri, Pātaliputra and Vaisāli. It occurs in earliest level (A) at Atranjikhhera.

*Troughs*

*Red Ware*

ATRANIKHERA

IV/T-1	Nail headed and collared; 44.0 cm.	Slightly tapering sides.	Red ware of coarse fabric, unslipped.	IV-D
IV/T-8	Splayed-out, thickened and obliquely cut externally; 34.0 cm.	Almost straight sides.	Red ware of medium fabric, unslipped.	IV-D

## PLATE NO. XLVI

## RING STAND

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
		<i>Red Ware</i> ŚRAVASTI		
II/RS-29	Ringstand with thick walls	—	Medium fabric, treated with a red slip.	Early level
		JAR STAND <i>Red Ware</i> ATRANJIKHERA		
IV/JS-1a	Featureless (?)	Almost straight sides thinner in Section than the former with projected flat base.	Red ware of coarse fabric, unslipped.	IV-C
Note : This type continued from sub-phase B of the same period at Atranjikhhera.				
IV/JS-2	—	Prominently projected flat base having obliquely.	Dull red ware of coarse fabric, unslipped.	IV-C
		STAND <i>Red Ware</i> RAJGHAT		
II/S-40	Damarooshaped; featureless externally obliquely cut rim.	Almost a flat hollow base.	—	II
		Pot on Stand		
II/S-41	A bowl resting on a stand with everted featureless rim.	Long uniformly thickened straight sides and a broad flat base. Marked by the presence of a horizontal hole on the middle of the stand.	—	II
Note : A peculiar specimen.				
		TROUGH <i>Red Ware</i> ATRANJIKHERA		
IV/T-2	Obliquely flattened internally & having projected thickened collar externally; 43.0 cm.	Almost straight sides and flattish base.	Red ware of coarse fabric, treated with a wash.	IV-D

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
IV/T-4	Almost flattened top, thickened internally and projected externally; 39.0 cm.	Tapering sides and flat base.	Red ware of coarse fabric treated with a slip.	IV-D
IV/T-6	Inturned, roughly clubbed with depression at the top; 36.5 cm.	Out going sides	Red ware of coarse fabric, unslipped.	IV-D
Plate No. XLVII JAR <i>Red Ware</i> ŚRAVASTI				
II/J-14	Bottlenecked	Flat base	Fine fabric treated with a red slip.	—
STORAGE JARS <i>Red Ware</i> ATRANJIKHERA GROUP B				
IV/J-5	Flaring rim, obliquely bevelled; 21.3 cm.	Carinated neck, flaring sides.	Red ware of medium fabric, treated with a slip. Mat impression on the shoulder.	IV-C
GROUP D				
IV/J-9	Elliptically collared; 25.0 cm.	Roughly carinated neck.	Red ware of medium fabric, treated with a slip. A row of deep incised oblique dashes just below the neck.	IV-C
IV/J-10	Roughly vertical, nail headed and collared; 25.0 cm.	Roughly carinated neck and flaring sides.	Red ware of medium fabric, treated with a slip. A thin groove on the shoulder externally.	IV-C
GROUP H				
IV/J-18	Almost vertical, prominently grooved & collared rim 25.0 cm.	Concave neck and flaring sides.	Red ware of medium fabric, treated with a wash.	IV-C
GROUP A				
IV/J-2	Out turned & clubbed externally; 29.8 cm.	Carinated neck. Sides slightly flaring & of thin section.	Red ware, coarse fabric	IV-D
GROUP D				
IV/J-8	Thickened and oval collared externally; 27.7 cm.	Out curved carinated neck.	Red ware of coarse fabric, treated with a slip.	IV-D

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
GROUP G				
IV/J-16	Splayed out thickened and bevelled externally; 26.0 cm.	—	Red ware of coarse fabric, unslipped.	IV-D
GROUP H				
IV/J-21	Vertical, slightly projected having grooved collar externally; 18.0 cm.	Concave neck.	Red (Brownish) ware of medium fabric, treated with a slip. A row of irregular incised triangles on the shoulder.	IV-D
Plate No. XLVIII				
LID				
NBPW				
HASTINAPUR				
III/L-8	—	Knobbed lid with flattish top.	Golden colour	Unstratified (C?)
<i>Red Ware</i>				
HASTINAPUR				
III/L-17	Out turned rim grooved on the top.	Flanged above the base.	Fine fabric nicely slipped on both sides.	Early level (C)
III/L-53	Lid with a strap handle, distinguished by a fingertip decoration around the circumference.	—	Medium fabric showing husk and gritt. Treated with a red slip on the top.	Mid-level
Note : Similar lids are known at Ahichchhatra, Vaisāli, Kauśāmbi, etc.				
ATRANJIKHERA				
GROUP E				
IV/L-12	A bowl like lid having projected flattened top; 14.5 cm.	Almost straight sides.	Medium fabric, treated with a slip.	IV-C
GROUP F				
IV/L-17	—	Rounded knob for a convenient grip. Lids (?) or Stem with bases.	Medium fabric, with a slip.	IV-C
PRAHLĀDPUR				
I/L-T6B	Stem not too short	Flattened and steady base.	—	IB

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
------	----------------------	---------------------	---	--------

## RĀJGHĀT

II/L-6	Acentrally placed deep bowl waist having a short internally thickened rim.	Prominent flanged waist	—	II
--------	--	-------------------------	---	----

Note : Only specimen in this period but occurs in periods III & IV.

II/L-7	Bifurcated rim and a knobbed terminal for the purpose of lifting. Top of rim decorated by a finger tip design in applique.	—	—	II
--------	--	---	---	----

## Grey Ware

## ATRANJIKHERA

IV/L-1	Obliquely cut; 8.8 cm.	Flaring sides, thickened flattish base with a hole in the centre.	Fine fabric, treated with a wash.	IV-D
--------	------------------------	---	-----------------------------------	------

## SIEVE

## Red Ware

## HASTINĀPUR

III/S-50	Three footed base fragment of a vase with perforations.	—	Medium fabric treated with a wash.	Early level (C)
----------	---	---	------------------------------------	-----------------

## Plate No. XLIX

## OTHER VESSELS

## Red Ware

## ATRANJIKHERA

IV-VL-9	Flaring mouth with thickened featureless rim; 21.0 cm.	Mildly carinated neck, sides expanding in the upper part and convex in the lower part having a ridge externally.	Red ware of coarse fabric, unslipped.	IV-C
---------	--	--	---------------------------------------	------

Note : Variants of it are available in this sub-phase and sub-phase D also, at Atranjikhera.

## GROUP I

IV/VL-19	Out turned and featureless; 9.2 cm.	curved short neck.	Red ware of medium fabric treated with a slip. Impressed designs on the shoulder.	IV-C
----------	-------------------------------------	--------------------	---	------



Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
GROUP A				
IV/VL-3	Out turned and featureless; 24.5 cm.	Slightly elongated carinated neck and expanding sides.	Red ware of medium fabric, unslipped.	IV-D
GROUP D				
IV/VL-8	Prominently flaring, featureless and thickened 17.0 cm.	Mildly carinated neck	Red ware of coarse fabric, treated with a wash.	IV-D
GROUP J				
IV/VL-20	Out turned and collared rim prominently thickened externally; 16.0 cm.	Squattish neck and flaring sides.	Red ware of medium fabric, unslipped.	IV-D
IV/VL-21	Out turned and collared rim with projected flattish top; 14.0 cm.	Mildly carinated neck and flaring sides.	Red ware of medium fabric treated with a wash.	IV-D
GROUP L				
IV/VL-25	Out turned and featureless; 12.0 cm.	Undefined neck and almost vertical sides.	N.B.P. Ware of fine fabric, having lustrous surface. Grooved externally.	IV-D
GROUP P				
IV/VL-35	Out turned and featureless having a ridge internally; 9.0 cm.	Concave neck rounded sides having a ridge below the shoulder & flat base.	Red ware of coarse fabric, unslipped.	IV-D
GROUP Q				
IV/VL-37	—	Narrow neck and globular sides.	Red ware of medium fabric, treated with a slip. Two sets of thin parallel grooves.	IV-D
PLATE NO. L				
MINIATURE BOWLS				
<i>Red Ware</i>				
ATRANJIKHERA				
IV/MB-41	Obliquely-cut externally; 4.5 cm.	Almost vertical sides and flat base.	Coarse fabric, crudely modelled.	IV-C
IV/MB-31	Incurved and featureless; 8.3 cm.	Incurved sides.	Coarse fabric, unslipped.	IV-D

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
IV/MB-32	Out curved and sharpened externally; 7.3 cm.	Roughly tapering sides and a flatish base.	Medium fabric	IV-D
IV/MB-33	Slightly incurved bevelled externally 7.1 cm.	Splayed outsides and flat base.	Medium fabric unslipped.	IV-D
IV/MB-40	Roughly vertical and thickened; 5.0 cm.	Roughly expanding sides.	Coarse fabric, crudely modelled.	IV-D
<i>Grey Ware</i>				
ATRANJIKHERA				
IV/MB-14	Vertical and sharpened, 6.8 cm.	Convex sides and flat base	Medium fabric, treated with a wash.	IV-C
IV/MB-10	Squattish bowl having out curved featureless rim; 7.7 cm.	Concave sides and a flat base	Coarse fabric	IV-D
MINIATURE POTS				
<i>Red Ware</i>				
ATRANJIKHERA				
IV/MP-2	Elliptically thickened externally, vertical internally 7.5 cm.	Out curved neck roughly convex sides.	Black slipped ware of medium fabric. Groove on the rim below the neck and on the body externally.	IV-C
IV/MP-6	Out-turned, featureless; 6.3 cm.	Carinated neck.	Red ware of medium fabric, unslipped.	IV-C
IV/MP-11	Slightly inturned & roughly bevelled internally, 5.8 cm.	Neck carinated below the rim externally.	Dull red ware of medium fabric, unslipped.	IV-C
IV/MP-17	Out-turned and featureless; 4.8 cm.	Concave neck, convex sides	Red ware of medium fabric, treated with a slip. Incised irregular lines on the shoulder. A transverse hole on the shoulder suggests that the pot was suspended with a rope.	IV-C
IV/MP-19	Out-turned featureless; 4.5 cm.	Out curved neck, convex sides and flat base.	Red ware of medium fabric, treated with a slip.	IV-C

Note : A variant of it is also present in the same phase.

Type	Rim and its diameter	Neck, side and base	Colour, fabric surface treatment and decoration	Period
IV/MB-22	Out turned, featureless; 3.0 cm.	Out curved neck, convex sides bulging in the lower part and flat base.	Red ware of medium fabric, treated with a slip.	IV-C
IV/MB-27	Obliquely bevelled and thickened externally; 2.7 cm.	Vertical sides bulging externally and a flat base.	Red ware of medium fabric, unslipped.	IV-C
IV/MP-3	Slightly out turned thickened having flat top; 7.5 cm.	Out curved neck	Red ware of medium fabric unslipped. A groove just below the rim internally.	IV-D
IV/MP-5	—	Convex sides, roughly flat base.	Red ware of coarse fabric, unslipped.	IV-D
IV/MP-26	Flaring mouth, featureless rim, 2.9 cm.	Carinated neck-roughly convex sides, lower part incurved to a flat base.	Dull red ware of medium fabric, unslipped. A groove on the body externally.	IV-D
MINIATURE VASES <i>Red Ware</i> RĀJGHĀT				
II/MV-13	Everted externally & obliquely cut rim.	Corrugated profile thick flat base.	—	II
Note: A complete specimen, type continues with slight variation in period III. Also exported from early levels of period IV of Hastinapur (cf. HST, T-24, p. 65).				
II/MV-14	Out collared grooved rim.	Body prominently carinated to a thick flat base.	—	II
Note : A complete specimen.				
II/MV-15	Everted pointed rim.	Vertical sides carinated to a thick flat base.	—	II

### PLATE NO. LI

*Painted and Incised NBP Ware*

KAUŚĀMBI - Period III

III/No. 5    Incised externally with palm tree pattern. (Fragment of a bowl).

- III/No. 6 Sherd, painted on a reddish yellow surface in black on both the sides; on one side oblique bands, one of which merges into a semi-circle; loops in black issuing forth from the other black band.
- III/No. 7 Sherd decorated with incised cheque pattern.
- III/No. 8 Fragment of a small vase, steel black external surface painted in reddish yellow with three parallel horizontal bands, a number of parallel vertical bands suspended from the lowest one; the inside of the fragment is plain grey.
- III/No. 9 Rim fragment of a bowl, painted on both the sides with reddish yellow colour, on the exterior horizontal black thin bands.
- III/No. 10 Fragment of a bowl, thin vertical rim, painted externally with a dot above horizontal line.

Note : These sherds belong to period III (675-45 B.C.). It is not clear that precisely to which level they belong. On the assumption that the tradition would have continued during Maurya and Śunga period, these have been illustrated here.

267923

Plate No. - LIII

PURANĀ QILĀ, NEW DELHI

An anthropomorphic terracotta pot, belonging to Śunga period was found from this site. The neck is broken and appears to have two hands, right one kept down wards and left one on the body of the pot (Plate : LIII-2).

## 2. POTS AS DEPICTED IN SCULPTURE

### a. Water Vessels

Various types of water vessels are depicted at Sānchi, which include ordinary water jars, ascetic's jar, hunter's gourd, drinking vessels, ewers, ambrosia jars and flower pots. They are in many shapes. Some with slightly bulging shoulders or elongated body.<sup>647</sup> At one place a simple but interesting hunter's water jar having a high neck and elongated belly is shown placed in a knitted bag for easy carriage. At a different place another jar is represented as a gourd.<sup>648</sup>

### b. Spouted Vessel (Kamandalu)

The spouted water vessels are prominently depicted on the sculptures of Bharhut. It had a great significance. It was meant for making gift. The donor had to pour water over the hands of the donee. The shape of such pot is invariably the same having a round handle on the top and a spout in front looking like a tea pot.<sup>649</sup> At Bharhut in the bas-relief of Jetavana monastery, the donor *Anathapindaka* has been shown holding his water vessel (Plate: LXXIII-B) in the midst of the garden ready to rectify his gift by pouring water over the hands of Buddha.<sup>650</sup>

A spouted vessel has been depicted under the Māyā devī's bed apparently to quench her thirst in the night. (Plate: XXXII-A).

Spouted vessels as an offering to Buddha have also been found represented in the panels of Sānchi.<sup>651</sup> Generally devas, nāgas and worshippers attending the symbol of the Buddha (the Stupa or the Bodhi temple) have been shown holding spouted vessels with a round handle and spout. These have wide mouth, short neck and bulbous body.<sup>652</sup>

### c. Auspicious Jars (*Purna Ghata*)

A variety of flower pots as the emerging source of the lotus stalks have been depicted in Sānci sculptures. Generally these pots had a round belly with or without a round base.

In some cases it had a wide flaring mouth with a constricted neck and globular body while in others it had a cylindrical body with a raised and wide mouth. Some of them were very well decorated. The most common design being of lotus petals.<sup>653</sup> The lower and upper body of the pot was generally decorated with lotus petals emerging from base and neck respectively.<sup>654</sup>

### d. Cups and Tumblers

In Sānci sculptures, cups and tumblers have been depicted at many places, generally in association with jars. They have been represented in the panels depicting a king and queen in pleasure garden, couples enjoying picnics, merry making army of demons, and nāgarāja Muchalinda with his nāgi queens. At places, the cup turned on the mouth of a jar serving as a lid is also depicted. Almost all the representations except one are similar in shape and design. Apparently they are plain having wide mouth, tapering sides and flat base.<sup>655</sup>

### e. Bowls

In Sānci sculptures there are representations of bowls probably full of honey or milk being offered to Buddha by a monkey and worshippers. The bowl is without a pedestal but with bulging-shoulders at the top. The core is decorated with a line of dots. Another type of bowl has a wide rim indicating its thickness.<sup>656</sup> On the back of Northern Gateway two demon's of Māra's army are holding deep bowls in their hands. The bowls have sharpened rims, straight sides and rounded bases.<sup>657</sup>

Similar bowls are represented on the sculptures of Bharhut.<sup>658</sup>

### f. Tiffin carriers (?)

On a lintel of the Southern gateway at Sānci, a couple has been chiselled out sitting on a rocky surface in the jungle. On their lap lies a typical *viṇā*. A jug with an inverted cup as its lid is placed below. Near them, a cylindrical box is hanging on a nāgadanta. The presence of a drinking vessel nearby suggests the cylindrical box a container of some edible preparations.<sup>659</sup>

Similar cylindrical boxes have also been represented elsewhere. Out of a pair of the bull-riders on the Southern Gateway, one rider holds in his raised hand a similar cylindrical box.<sup>660</sup>

### g. Ladles and Spoons

Ladles and spoons in Sānci sculptures have been represented in the scenes depicting *viśvantara jātaka*. *śyāma jātaka* a scene of hermitage.<sup>661</sup> They were used only for pouring oblations and *ghṛita* into the sacred fire. The ladle was roughly a rectangular and flat piece attached to a long handle. The spoon was a small round bowl with a similar long handle.<sup>662</sup> Spoons have also been reported from some sites during excavations. From late N.B.P.W. level of Campā,<sup>663</sup> a terracotta spoon is reported while from Pataliputra<sup>664</sup> a copper spoon has been reported although its handle is broken. From Śringverpur,<sup>665</sup> three copper vessels belonging to c. 3rd cent. B.C. have been found. One of them is a spouted and long handled ladle.

### h. Trays and Baskets

At Sānci there are panels depicting the sacred symbols of the Buddha and the Stūpas. In these panels we find the worshippers, specially the ladies and the *kinnaras*, holding trays or baskets full of flowers, fruits and garlands. The difference between tray and basket is based upon their shape. Those which are shallow with a round and sometimes oblong body with flat bottom may be the trays, while those with a deep, hollow and round body should be baskets.<sup>666</sup> A very clear representation of a basket full of fruits may be seen on the head of a female ascetic returning from the forest to her *Parnaśala*. The basket is deep with wide mouth, straight sides and flat base.<sup>667</sup> Representations of baskets have also been found in Bharhut sculptures.<sup>668</sup>

#### I. RELIC CASKET

At Sānci, a round or cylindrical box with a lid of the same size having a knob in the centre has been represented at many places. In the panel depicting the 'war of relics', this box is being carried over the heads of elephants.<sup>669</sup> At Bharhut, there are four pieces of sculpture representing two successive scenes of a relic procession. The first scene depicted on the coping represents procession in march. The royal elephant is carrying the relic casket on its head.<sup>670</sup>

From the excavations of many stūpas, relic caskets have been unearthed thus corroborating the practice of keeping relics in the caskets. From Piprahwa,<sup>671</sup> two relic caskets of different sizes have been found. They are made of soapstone and skilfully turned on a lathe. A stone box containing relic caskets of the same material and shape but of different sizes, is also found. One of these caskets bore an inscription in Aśokan brāhmī. At Vaiśālī,<sup>672</sup> a few copper utensils were found at the centre of the northern mound of a stūpa (Plate : LIV-1). One of them contained relics of a Buddhist saint. From Atranjikhhera,<sup>673</sup> a circular lid of a casket having slightly flaring sides and convex upper surface was found. It was decorated with carved geometrical pattern. It was made of grey ware having black slip and fine fabric. When *Dharmarājika* stūpa of Sārnātha<sup>674</sup> was pulled down by Jagata Singh, a large round stone box containing a green marble relic casket was found in it. Relic caskets of steatite, soapstone and bone were found from Noh,<sup>675</sup> Sugh<sup>676</sup> and Ujjain,<sup>677</sup> respectively.

#### j. Fire Receptacles (Agni Pātra)

On the panels of the Sānci Stūpas, wherever the sacred fire has been shown, it is always shown tended in a receptacle, and this vessel has always been associated with ascetic life. Two varieties of the fire receptacle, one like a bowl on a pedestal and the other a deeper one like a *modhā* are carved out on the Stūpas.<sup>678</sup> During the excavations at Dangwada<sup>679</sup> two Yagnakūndas were found. They belonged to about 1st cent. B.C. Out of two one is square and the other is semicircular.

### 3. METALLIC POTS

According to Strabo, in the festival processions of Candragupta Maurya, attendants used to carry basins and goblets of gold (besides tables, chairs of State), vessels and lavers of Indian copper etc.<sup>680</sup> He says that the copper they used was fused but not wrought. If the utensils fall to the ground, they break like earthen ware.<sup>681</sup> His statement is more or less corroborated by some finds during the course of excavation. Those of interest are classified and described below:

### a. Lid

Only one fragment of a copper lid having flaring sides and a knob at the top is reported from Atranjikhhera<sup>682</sup> during phase D of period IV (Plate: LIV-3).

### b. Dish

From the Maurya level of Noh<sup>683</sup> iron dishes have been found, while from Sonkh<sup>684</sup> a big bronze plate with handles and thorns of hitherto not comparable shape and size has been found.

### c. Pan and Basin

Iron pans are found at Nagda<sup>685</sup> and Hastinapur<sup>686</sup> (Plate : LIV-2) belonging to circa 3rd-2nd cent. B.C. Hastinapur specimen is a base fragment probably with loop handles on either end. From Atranjikhhera<sup>687</sup> fragment of a copper basin is reported. It has inturned, closing and featureless rim, rounded base, convex sides. Its thin section is with one hole under the rim. Other holes seem to be damaged. The holes were probably meant to suspend the pot with the help of a string.

### d. Bowl

Copper bowls have been found during excavations from a number of sites like Ganwaria<sup>688</sup> and Prahlādpur.<sup>689</sup> From Campa<sup>690</sup> in the mid NBPW level, rim of a copper utensil has been found.

## F. Recreation

From time immemorial, the human being entertained itself in various ways, whenever time for leisure was available. This could be in any form including hunting, roaming and music in our period of study since urban elements were also of varied and advanced nature. A brief account of it is given below as found depicted on sculptural and other art pieces as well as indicated in the contemporary literature.

A very interesting moulded terracotta male bust from Kauśāmbī (Plate : LV-B) shows him in Namaskāra posture with a smile on his face. This is the oldest custom of our country to greet someone and it still continues.

### 1. HUNTING

Hunting, both as game of pleasure and profession has been referred to by Megasthenes and Aśoka (R. E. VIII). This popular pastime has also been illustrated in the panels on the Śāncī stūpa as well as in terracotta plaques.

In one of the panels two persons are illustrated going to the forest, probably for hunting. One has a spear on his shoulder and the other holds a bow. Ahead of them two persons are shown at a distance returning from the forest. One of them is carrying two deer slung across his shoulders on a pole. A long dagger is seen thrust into his loin cloth.<sup>691</sup>

A remarkable hunting uniform may be cited from the Syāma Jātaka scene, where the king of Vārāṇasī has encircled his loin cloth in many folds. His quiver hangs at his back with its straps crossing on the chest and a small dagger frontally thrust into it.<sup>692</sup> A similar scene is depicted in a terracotta now displayed in Lucknow museum. This piece is made with the help of two moulds.<sup>693</sup> This specimen is an amulet showing a warrior dressed in a tunic, holding a dagger in his right hand. On his back is hanging a case probably to put dagger in it. He is

also wearing a helmet on his head. Another specimen from National Museum shows a hunter with bow and arrows in his hands. He is wearing a tunic of cloth and a waist band in the upper part of the body and trousers (?) in the lower portion. On one of the railing pillars of stūpa no. 2 at Sāncī, a person is depicted in a small medallion killing a tigress and holding a cub.<sup>694</sup>

Sometimes women also helped their partners in hunting. Such a hunting couple, hand in hand—the male holding the quiver and the lady the bow—has been represented on a panel of the great stūpa.<sup>695</sup>

A terracotta moulded plaque from Mathurā<sup>696</sup> museum also shows a hunting scene. In this plaque an elephant rider is shown chasing a wild boar (Plate : LVI-B).

## 2. PICNIC

Picnic was another pastime. Several sculptural and terracotta depictions testify it. In a broken panel on the southern gateway of Sāncī, against a forest setting, a lady is seen squatting on a rock. The presence of her male companion beside her, is presumed by the execution of a pair of crossed legs. In between them lies their *viṇā*, a characteristic of that time. A round container is seen hanging nearby from the branches of a tree underneath is a vessel of drinking water covered with a small tumbler.<sup>697</sup>

In a design of a *Kalpalatā* at Sāncī, three couples have been chiselled out enjoying the music on the *viṇā* along the banks of a stream. Of a couple, the male is playing on the *viṇā*, while the lady is holding her necklace of charms on her out-stretched feet.<sup>698</sup> On another panel, shady trees, rocky terrain, rippling streams, frisking and frolicking deer and lions, all present a living picture of the forest. In such an environment, a couple has been depicted—the male giving his finger to a child and the female holding another in her lap. The couple is sitting behind a stream under a shady tree, while the two children are playing at a distance. This scene successfully depicts a family 'enjoying picnic'.<sup>699</sup>

Sitting on a plain rock in a forest, a couple has been sculptured in a close embrace. The lady is sitting on the left thigh of her spouse, who has offered her the support of his left hand.<sup>700</sup> There are many other picnic scenes in the panels of Sāncī.

In terracotta also, picnic scenes were quite popular. There are several examples of picnic parties enjoying their food and drinks in bullock carts. In one example from Kauśāmbī (Plate: LVII-B) people are shown sitting in bullock carts and edibles are kept in front of them. In one plaque,<sup>701</sup> a couple is shown on picnic. The couple is standing near a pond. A lady attendant is also there.

In one broken portion of a cart<sup>702</sup> are shown three-four persons sitting and edibles are kept in front of them. Another small cart from Kauśāmbī<sup>703</sup> shows a picnic party. The party consists of six figures, four male and two females divided into two groups of three each reclining against the sides of the cart. On the right side the first male is holding a harp in left hand and a plectrum in right and the next male is kissing the lower lip of the female next to him. On other side is first a reclining male figure and his female friend with her back towards him, and next is a male figure looking like a jester in his dress and expression. In front of the figures a big dish with edibles and a round jar are kept.

## 3. WATER-SPORTS

Sāncī art represents water-sport in many panels. In every panel, it is represented as being enjoyed by men and women together on elephants back frisking and frolicking in lotus ponds.<sup>704</sup>



Generally the scenes of *Jala-Krīḍā* in Sāncī art are pictured against a forest setting. But one of them is a scene of a pleasure garden in a royal residence. In a panel on the southern gateway, an elephant is seen sporting with lotuses in a tank with the king and queen on its back. The queen, sitting behind and giving her helping hand to another lady in water, is trying to lift her up. Nearby from a balcony, two ladies are peeping out to see the king and queen indulging in *Jala-Krīḍā*.<sup>705</sup>

#### 4. DRINKING

Drinking was another source of pleasure. In a scene on the northern gateway of Sāncī a lady is seen sitting on the left thigh of her spouse, who is offering a cup of wine to his beloved.<sup>706</sup>

Out of the four *mithunas* engaged in sensual pleasures on the western gateway pillar, one is enjoying drinks and gossiping.<sup>707</sup>

In a small panel on the western gateway a royal party is shown busy with drinking. In this panel, the king is seated in an armed-chair attended with the *cauri* and *chatra* bearing maid servants.

The queen is shown sitting on a wicker stool quite in front of the king. She holds a cup in her hand in which a third female attendant is pouring the drink from a vessel, probably wine. The trees in the background suggest the pleasure garden attached to the palace.<sup>708</sup>

Drinking by ladies in contemporary society is also confirmed by terracotta plaques from Kauśāmbī. One plaque now in Allahabad Museum (No. K 5329) is depicting a drunken lady in a drooping posture being lifted by another male figure. The posture of the lady is romantic and displays the height of the plastic art. It is assignable to Śuṅga period.<sup>709</sup> Another plaque from Kauśāmbī (Plate: XXXI-A) in which a couple is sitting on a sofa, the lady is holding probably a tumbler in her hand while in a steatite plaque from Rajgir (Plate : LXXVI A), a couple is shown in a sequence of three scenes. The male figure is holding a cup in his hand, apparently drinking.

#### 5. DANCE AND MUSIC

Dance and music appear quite popular. Sāncī bas-reliefs represent music both with and without dance. *Mithunas* or couples set out for picnics on the banks of a river, stream or pond or beneath the dark shade of a tree in a pleasure garden, have been enjoying the sweet notes of their *viṇā*. In one panel of Sāncī a couple is seen behind an arbor, the male playing on the *viṇā* and a female dancing to its tune. The demons of Māra's army are seen in a panel merry-making with drinking, dancing, singing and playing on musical instruments.<sup>710</sup>

For the recreation of an assembly of gods or the court of a king, the collective from of music including dance was always employed. Normally the musical parties consisted of female dancers and musicians. It is quite evident from the panels representing gods worshipping the lock of the Bodhisattva, Indra holding his court in his heavenly abode and the Nāgarāja Muchalinda in the company of his queens.<sup>711</sup> At Bharhut, in a scene in the palace of the *devas Apsaras* are shown dancing. The musical instruments consist of a drum, two harps, and a pair of cymbals. A similar proportion of the instruments is found in the great scene of the *apsaras*, where the dancers have their names written besides them.<sup>712</sup>

A panel of stūpa no. 3 represents a family of a man, a woman and three children, enjoying dance and music. The man sits on a wicker-stool holding the hand of a small boy standing before him. The woman, apparently his wife, sits by his side with a child on her lap

and another standing behind her. The musical party includes a lady playing on the *vina*, another blowing a *syrinx* and the third dancing. This also includes clapping by the two visitors.<sup>713</sup> Dancers on different panels have been carved out in different postures (*mudras*).<sup>714</sup>

At Bharhut the southern gate (Scene 34) relief depicts a jovial scene of three groups of nymphs, one group dancing, one singing and the third playing musical instruments. Just in front of the dancing group is shown a dancing little boy, the purpose of which, perhaps, is that among the dancing women, some were damsels in the prime of their youth and some had become mothers.<sup>715</sup>

The dancing, singing and playing musical instruments constitute three features of a typical musical performance.<sup>716</sup>

Bharhut offers various examples of exclusive dancing. This art is mainly assigned to maidens both human and divine. There are mainly five forms of dance: one that of a wife wanting to please her husband; one that of a *kinnara* couple dancing out of joy in a playful mood; one that of the accomplished nymphs and courtesans dancing to the accompaniment of vocal and instrumental music; one that of a *Nāga* maiden dancing on the lifted head of a *Nāgarāja*, maintaining rhythm with the wavy motion of his body; and the fifth that of a *Nāgarāja* in a human form, maintaining rhythm with the wavy motion of two mermaids.<sup>717</sup> A railing pillar from Mathurā shows a lady in dancing pose. She has curly hair decorated with a band and she is wearing a number of ornaments on her body (Plate : LV-A).

A mould made terracotta from Kauśāmbi, now in Allahabad Museum, shows a dancing female figure. Her hair is arranged in three high rolls, decorated ribbons emerging from the central roll hang on either side of her face. She wears round ear-rings, a torque, a necklace and puffed up bracelets. Her body is slightly twisted at the waist, suggesting movement.<sup>718</sup> Another terracotta from Kauśāmbi shows a dancing female figure holding the stalk of a lotus in right hand and left hand raised across the slightly bent head.<sup>719</sup> Another Kauśāmbi<sup>720</sup> figure shows a smiling female dancer standing in graceful posture, resting the weight of her body on her right foot and having the left knee slightly bent and the two hands clasped in front. She is wearing a voluted turban on head, a double pearl string on the forehead, a round ear ring in right ear and a cylindrical drum in her left ear, a flat torque round neck and a pearl necklace on the breasts, heavy wristlets and a broad girdle of flattened and fluted beads.

Another moulded terracotta plaque from Kauśāmbi, now in Allahabad Museum (no. 4319), depicts in the middle a royal couple seated on a wicker stool. The left leg of the man is placed on a small foot rest. The man plays on a flute. On the left is a dancing woman, moving her left hand above her head. On the extreme right and left there is a flowering tree. A suspension hole is seen at the top of the plaque.<sup>721</sup>

A mould made terracotta plaque showing a dancing couple has been found from Mathurā<sup>722</sup> also. The man wears a high head dress, a torque and well creased and crinkled short dhoti held up by a waist band knotted on his left side. The head dress of the woman is arranged in two high rolls supported by beaded chains. In addition she wears a triple chain below the hair-ridge on the forehead, round ear-rings, a torque, a chain swinging on the chest, a triple stranded girdle and a diaphanous sari held up by a waist band.

At Bharhut the song or vocal music is sought to be represented only by certain gestures and postures.<sup>723</sup>

## 6. MUSICAL INSTRUMENTS

According to Strabo "Indians had no musical instruments except cymbals and drums

and the rattles used by Jugglers."<sup>724</sup> Obviously, this is not true as a number of musical instruments including drum, Indian pipe, cymbals, harp, metal bell and of course *viṇā*,<sup>725</sup> have been displayed both in sculptures as well as in terracottas.

A brief account of these instruments may be worthwhile:

#### (i) *Viṇā*

The oldest *viṇā* was the bow shaped or curved harp encountered at Bharhut and Sānci (2nd-1st cent. B.C.). It generally had seven strings, sometimes 10 and was played by a sitting woman.<sup>726</sup> The *viṇā* was a very popular musical instrument. It was the only instrument in Sānci sculptures, which was used for solo performance by the couples on picnic trips. The instrument was played upon by a plectrum.<sup>727</sup>

At Bhārhut too *viṇā* surpasses all the musical instruments which is placed in the hand of *Pancaśikhā* and the lotus nymph.<sup>728</sup> On one of the pillars of the S.E. quadrant, there was a life size statue of an *apsaras* playing a harp of seven strings. A similar instrument is used by the harper in the bas-relief of the *Indra-Sāla-guha*, and by the minister in the *Andabhūta Jataka*. This kind of harp was called *parivadini*, and was usually sounded with a plectrum held between the forefinger and thumb, and not with the hand itself.<sup>729</sup> Even in terracotta art it has been represented. One terracotta plaque from Mathurā Museum, belonging to Maurya period shows a human figure playing on a harp. (Plate : LVI-A).

#### (ii) *Flute*

We find two varieties of flute in Sānci bas-reliefs—one representing an ordinary pipe with a single hole at the mouth end and many others at the finger end and played by holding it horizontally and the other consisting of two pipes with upper ends in the mouth for blowing and the lower ones held vertically and separately in both hands.<sup>730</sup> From Mathurā<sup>731</sup> and Purāna Qilā<sup>732</sup> flute players have been found in terracotta. The flute player from Mathurā is a male while one from Purāna Qilā is female. Both these moulded plaques belong to Śunga period.

#### (iii) *Trumpet*

The blowing of a trumpet during military movements is well represented in Sānci art. The trumpet in Sānci sculptures represents its two varieties one straight and the other curved somewhat like the English letter 's', both having a broad head either round or like the beak of a bird and slightly tapering towards the mouth end.<sup>733</sup>

#### (iv) *Conch*

At Bharhut the shell is found only in the Monkey and Elephant scenes, in which it is fastened at the end of a pipe. The sound must have been like that of a shrill trumpet.<sup>734</sup>

At Sānci<sup>735</sup> male musicians are shown playing on it. It is held by both the hands keeping it directly on the mouth. It is also shown with other instruments in royal procession as well as in during religious ceremonies.

#### (v) *Cymbals*

Cymbals are used in both of the *apsaras* scenes.<sup>736</sup> They are a pair of cymbals made of probably some metal. Only once it has been represented on Sānci relief.<sup>737</sup>

#### (vi) *Tabor*

Sānci art represents tabors of various shapes and sizes. These were shallow drums with their sides covered with animal hides and fastened with a cord.<sup>738</sup>

We find a peculiar instrument of this class in a panel on northern gate. Many devotees and worshippers are seen circumambulating and playing on different instruments, including this instrument which is thin in the middle with slightly increased sides.<sup>739</sup>

#### (vii) Drum

Large drums which were beaten with sticks, are often represented in Sanci panels, symbolising Buddha worship. These were similar to the large tabors but with even body. Small drums were suspended round the neck and beaten with sticks. Another instrument of percussion was a kettle drum, hanging with a rope round the neck and beaten with two sticks. This was generally included among the war-music instruments.<sup>740</sup>

In Bharhut sculptures the drum was of two kinds; the small hand drum which was beaten by the fingers, and the large drum which was suspended from the neck and beaten by sticks. The former is found in both of the Apsaras scenes as an indoor instrument.<sup>741</sup>

#### (7) Wrestling

In a panel on a ground railing pillar (no. 88b) of Stūpa no. 2, a lion and a warrior are seen fighting together. The lion standing on its hind legs is in a posture of fierce attack with its front paws. The gallant warrior appears to have foiled its attack with the help of his long shield and made a counter-attack with his sharp and pointed dagger.<sup>742</sup>

On both the lower false capitals of the small gateway, a wrestler, wearing an underwear, a full sleeved jerkin and long boots is seen fighting with a python.<sup>743</sup>

As for wrestling, Bharhut has just one scene to offer.<sup>744</sup>

In one terracotta plaque displayed in National Museum, Delhi, two men wearing only underwears are shown in a wrestling pose.

#### (8) Gymnastics

The gymnastic feats shown in plastic art consist in riding elephants, horses and crocodiles (*makaras*). In some instances, a male in standing posture is shown lifting up a standing man on his shoulder and a standing woman on the palm of one's hands; and in remaining balanced up on an unsteady support. Here are also a few feats to demonstrate the effect of training of animals by men.<sup>745</sup>

#### (9) Joy Riders

There are several representations in the sculptures, depicting riding as a means of recreation. At Sanci almost all the false capitals contain a set of two animals, bridled and well-caparisoned and sometimes with men and women riding on them. Bull riders on the southern gateway carry in one of their hands a box.<sup>746</sup> Even in terracotta a number of horses, bulls and elephants have been found decorated with or without a rider on their back. Horses<sup>747</sup> and elephants were used for riding, the latter probably by royal persons only. Though representations of elephant riding<sup>748</sup> are found in terracotta but they are lesser. Elopement of Vāsavadattā scene shows both Udayana and Vāsavadattā riding on an elephant.

#### (10) Dice, Gamesmen & Cones

Dice play was popular game throughout in ancient India. A bas-relief from Bharhut portrays a scene where two men are sitting face to face. There is a board in front of them with a gradation arrangement of five squares in six lines or rows. Six little cubes with marks on their sides, are also shown lying outside the board.<sup>749</sup>

Dice play and gambling houses have been mentioned in Smṛti literatures. Ārthaśāstra<sup>750</sup> advocates a strict control on gambling by the State.

Dices have been found from a number of places during excavations. While Jajmau<sup>751</sup> and Ujjain<sup>752</sup> have yielded ivory dices; Noh<sup>753</sup> and Katragarh<sup>754</sup> have yielded terracotta dices. From some sites games men have also been found. Some of them belong to PGW periods. The noteworthy sites are Atranjikhhera,<sup>755</sup> Noh,<sup>756</sup> Pariar,<sup>757</sup> Piprahwa and Ganwaria,<sup>758</sup> Rajghat<sup>759</sup> and Ujjain.<sup>760</sup> All the sites have yielded terracotta specimens. Only Atranjikhhera has yielded bone specimens also. From Atranjikhhera 11 terracotta games-men have been found from phase c and d of Pd. IV. (Plate-LIX-1 to 7). Some of them bear slip and a few have incised decorations. They are of different types. Some are tapering cylindrical with flat base, tapering cylindrical with truncated top, cylindrical with truncated ends sand glass or *damarū* type, and those with flat base and pinched up knob. From Rajghat<sup>761</sup> only one terracotta gamesman has been found. It is hand made, ill fired smoky grey in colour with rounded top and concave base. Similar antiquities from Kumrahar have been reported by Altekar and Misra. Three bone gamesmen have also been found from Atranjikhhera<sup>762</sup> (Phase D of period IV). All have lustrous surface. One is elongated and tapering with circular base. It is lustrous. The second one is elongated and tapering having a hole in the centre of the flat squarish base. It is decorated with incised circlets on two opposite sides near the base. The third one is a broken piece with flattish base.

From Prahādupur<sup>763</sup> small terracotta cones have been reported. They are well baked. At first site they appear to be gamesmen. These are well graded in size, rough in appearance and both hand and wheel made. In colour they vary from dull red to dull black, often treated with black, dark red or chocolate slip but more frequently left plain. The broader end of the cones may be the base and is either flat or rounded. From Sarai-Mohana<sup>764</sup> also some terracotta cones have been reported.

#### (11) Marble

Almost all the sites have yielded terracotta balls during excavations. Among them are Ayodhya,<sup>765</sup> Bateśwara,<sup>766</sup> Balirajgarh,<sup>767</sup> Masaon,<sup>768</sup> Nāgda,<sup>769</sup> Prahādupur,<sup>770</sup> Rajghat,<sup>771</sup> Ujjain,<sup>772</sup> Vaiśālī,<sup>773</sup> Eran,<sup>774</sup> Atranjikhhera,<sup>775</sup> Candahādih<sup>776</sup> and Rajgir.<sup>777</sup>

From Nāgda<sup>778</sup> a terracotta ball was found with an inscription of c. 2nd cent. B.C. From Rajghat<sup>779</sup> 69 terracotta balls were found. They were made of fine grained clay and were well baked in oxidizing conditions giving them a bright red surface colour. From Taxila<sup>780</sup> a sizeable number of terracotta balls were reported as 'sling balls' or 'marble'. Similar finds have also been reported from Kumrahar. From Atranjikhhera<sup>781</sup> 59 terracotta balls (Plate: LIX-8) have been reported from phases C and D of the NBPW period. They have elaborate incised lines. Two had flattish surfaces. One small rounded lump or ball of lead was also reported from phase C of period IV.<sup>782</sup>

#### (12) Hop Scotch

This is a kind of game still popular among children to be inferred from a number of unperforated pottery discs reported from a large number of sites during excavations.

#### (13) Rattles

Atranjikhhera,<sup>783</sup> Bateśwara<sup>784</sup> and Rajghat<sup>785</sup> have yielded Rattles which might have been used to please children like today. From Atranjikhhera<sup>786</sup> two rattles (Phase C of period IV) of terracotta have been reported (Plate : LVIII-2, 3) and out of them one is almost complete. One

is with hollow globular body having a few tiny pebbles within for rattling. The upper part is decorated with deep incised lines. The top has two projections having transverse holes for a string to hold the rattle. It has a smooth surface with a chocolate slip. This has smooth surface with a red slip.

One rattle from Rājghāt<sup>787</sup> is pomegranate shaped. The body is hollow and contains kankar nodules. The handle has flower like top.

#### (14) Mask

From Chirand<sup>788</sup> a terracotta large sized mask showing a fierce looking human face with protruding teeth, bulging nose, rounded eyes and applied moustache has been reported (Plate: LVIII-A). Perhaps it was used for recreation or as a helmet.

### NOTES & REFERENCES

1. In Vedic times embroidery was known as *peśah*. See *Aitareya Brāhmaṇa*, II. 11.10 and *Vājasaneyi Saṁhitā*, XIII vide J. Basu, *India of the Age of the Brahmanas*, pp. 55, 72.
2. *Mayhaka Jātaka* no. 390; *Lalitavistara*, edited by P. L. Vaidya (Mithilavidyapith, 1958), XV. 218 (divya gandha parivāsita - scented with divine fragrance), *Saundarananda* IV. 26 (*vāso-anganā kāchit avāsyacheha* — lady with fragrant garment).
3. S. Sahay, *Indian Costumes, Coiffure and Ornaments*, p. 1.
4. R. Shama Sastry, *Kauṭilya Arthaśāstra*, p. 89, fr. 6-12.
5. J. W. McCrindle, *op. cit.*, frag. xxviii, p. 69.
6. *Ibid.*
7. S. Sahay; *op. cit.*, p. 2.
8. *Chullavagga*, tr David Rhys, 6.14; *Satapatha Brāhmaṇa*, xiii. 2. 10. 3.
9. *Ibid.*, 6.15.
10. *Ibid.*
11. *Suchi Jātaka* (No. 387) mentions the qualities of the needles in its first two gāthās. See *Jātaka*, Hindi tr., B. A. Kausalyāna.
12. Pātañjali, *Mahābhāṣya*, ed., Charu Datta Śāstri, II 1.2; B. N. Puri, *India in the time of Patañjali*, p. 95.
13. R. Shamsastry, *op. cit.*, pp. 113-14.
14. J. W. McCrindle, *op. cit.*, p. 4; *Geography of Strabo*, tr., Morace Leonard James, XV. 20.
15. J. W. McCrindle, *op. cit.*, p. 219.
16. *Costumes, Textiles, Cosmetics and Coiffure in Ancient and Mediaeval India*, Dr. Motichandra Felicitation Volume, ed., S. P. Gupta, p. 17.
17. *ASI-AR*, 1917, plates XLVIII b. d., XLIV.-e, XLV. d. (nudefigures); *IHQ*, IX 1933, plate facing p. 154 (lower part of the body covered and upper part bare); Patna Museum Archaeology no. 8499 (diagonal lines across the chest), 4232 (arrangement of drapery), 8537 (pleats of loin cloth), 9472 (lower garment tucked up towards the left side), 4196 (folds of the lower garment between the thighs).
18. Motichandra *op. cit.*, pp. 17-18.
19. J. B. Bhushan, *The Costumes and Textiles of India*, p. 22.
20. Motichandra, *op. cit.*, p. 18.
21. G. S. Ghurye, *Indian Costumes*, p. 74.
22. A. Cunningham, *The Stupa of Bharhut*, plate XV.
23. K. Krishnamurty, *Material Culture of Sanchi*, p. 107.
24. *Ibid.*, p. 108.
25. Cf. G. Carol, and Lin Bodien in *Chhavi* 2, p. 294.
26. C. Sivaramamurty, *Indian Sculpture*, p. 21.
27. J. Marshall and A. Foucher, *The Monuments of Sanchi*, vol. II, plate XXIII.
28. K. Krishnamurty, *op. cit.*, p. 107.
29. *Ibid.*, p. 110.
30. A. L. Srivastava, *Life in Sānct Sculpture*, p. 14, plate LXXXVI.
31. J. Marshall and A. Foucher, *op. cit.*, plates XI, XXVI.
32. See R. C. Majumdar, *Vedic Age*, plate VI. 3. One steatite male head from Mohanjodaro is shown wearing a plain woven fillet.

33. Motichandra, *op. cit.*, p. 18.
34. G. S. Ghurye, *op. cit.*, p. 72.
35. C. Śivarāmamūrti, *op. cit.*, p. 18.
36. Pāṇini's *Aṣṭādhyāyī*, V. 46, *Bṛhatyā āchchhādane*.
37. *Raghuvamśa*, XVI 43 : *Ratnagrahitottariyam*.
38. *Mricchakatikam*, IV. 30 : *Puspa-prāvāraka*.
39. *Rāmāyana*, VI. 114. 21.
40. *Amarakośa*, II. 8. 63.
41. J. W. McCrindle, *op. cit.*, p. 220.
42. Ramji Upadhyaya, *Prācīna Bhāratīya Sāhitya Ki Sāṁskṛitika Bhūmikā*, p. 856, n. 3.
43. Motichandra, *op. cit.*, p. 19.
44. J. Marshall and A. Foucher, *op. cit.*, northern gateway, west pillar, plate XXVI.
45. Motichandra, *op. cit.*, p. 19.
46. S. Sahay, *op. cit.*, p. 3.
47. *ASI-AR*, 1911-12, p. 74.
48. Cf. B. Rowland, *The Pelican History of Art*, p. 73.
49. A. L. Śrīvāstava, *op. cit.*, p. 16. Also see J. Marshall and A. Foucher, *op. cit.*, plates XXII, XXIX, XXXV.
50. Motichandra, *op. cit.*, p. 18.
51. G. S. Ghurye, *op. cit.*, p. 70.
52. Carol G. Lin Bodien; *Chhavi* 2, p. 295.
53. S. Sahay, *op. cit.*, pp. 2-3.
54. *Aṣṭādhyāyī*, IV. 3. 40.
55. B. M. Barua, *Bharhut*, plate LVIII, fig. 63.
56. *Ibid.*, fig. 64.
57. *Ibid.*, plate LV, fig. 60.
58. *Ibid.*, fig. 58.
59. J. Marshall and A. Foucher, *op. cit.*, plates XXXVI, L-a.
60. V. S. Agarwal, *A Short Guide Book to Archaeological Section Provincial Museum Lucknow*.
61. A. K. Coomaraswamy, *History of Indian and Indonesian Art*, plate III, 9; cf. M.A.S.I., 30, plate vi. d.
62. J. Marshall and A. Foucher, *op. cit.*, plate XII.
63. *Ibid.*, plates XV, XXIX, LXV-a.
64. R. Shamsastry, *op. cit.*, II. 11. 107.
65. Motichandra, *Prācīna Bhāratīya Veshbhusha*, p. 45.
66. V. S. Agrawala, *Clothes in Harśacarita*, NPP, Vol. 57, p. 320.
67. Marshall and Foucher, *op. cit.*, pl. LXVIC.
68. *Ibid.*, pl. XLVIII.
69. *Ibid.*, pl. XXXVI.
70. Marshall, *A Guide to Sāṁct*, p. 63.
71. A. L. Śrīvāstava, *op. cit.*, pl. LXXVI.
72. Motichandra, *op. cit.*, p. 19.
73. R. C. Majūmdār, *op. cit.*, p. 574.
74. *Chullavagga* tr. Rhys Davids II, 14 fl.
75. Marshall and Foucher, *op. cit.*, plate LXII.
76. Marshall and Foucher, *Ibid.*, plate XXXVI.
77. *Ibid.*, pl. XLVIII.
78. 55.288 in State Museum, Lucknow.
79. A. L. Śrīvāstava, *op. cit.*, p. 21.
80. *Ibid.*
81. Marshall and Foucher, *op. cit.*, plate LXV-a.
82. Motichandra, *op. cit.*, p. 19.
83. 36.2702 in Mathurā Museum; 4784 in Bharat Kala Bhawan.
84. Motichandra, *op. cit.*, Introduction p. 11.
85. Marshall and Foucher, *op. cit.*, plate. 11.
86. *Ibid.*, plate XXIX.
87. A. C. Das, *Rigvedic Culture*, p. 211.
88. *Aṣṭādhyāyī*, III. 1, 20; VI.2.127 and III. 433.
89. *Chullavagga*, V. 6.14; Suruchi Jātaka No. 489; Samudda Jātaka no. 296, Cullaśuka Jātaka no. 431.

90. Rāmāyaṇa, II. 99.26.
91. *Svapna Vāsavadattam*, I. 3.
92. Marshall and Foucher, *op. cit.*, plate XXIX.
93. A. Cunningham, *op. cit.*, p. 33.
94. A. S. Altekar, *The Position of Women in Hindu Civilization*, p. 344 ff.
95. *Marg*, vol. XX, no. 1 (December 1966), p. 8, fig. 3.
96. Exhibit nos. 270 and 271 in Bharhut Gallery, Indian Museum, Calcutta.
97. A. Cunningham, *op. cit.*, plate XXII.3.
98. Exhibit no. 307 in Bharhut Gallery, Indian Museum, Calcutta.
99. G. S. Ghurey, *op. cit.*, pp. 76-77.
100. S. Sahay, *op. cit.*, p. 170.
101. G. S. Ghurey, *op. cit.*, pp. 76-77.
102. C. C. Das Gupta, *Origin and Evolution of Indian Clay Sculpture*, p. 169.
103. Marshall & Foucher, *op. cit.*, plates XXVII & XXVIII.
104. G. S. Ghurye, *op. cit.*, p. 78.
105. P. L. Gupta (ed.), *Patna Museum Catalogue of Antiquities*, plate. XXXIX.
106. Banerje and A. Sastri; 'The Nati of Pataliputra, *IHQ* Vol. IX, 1933, plate. facing p. 154.
107. P. L. Gupta, *Gangetic Valley Terracotta Art*, p. 28.
108. G. S. Ghurey, *op. cit.*, p. 77.
109. A. L. Srivastava, *op. cit.*, pp. 20-21.
110. V. S. Agrawala, *Studies in Indian Art*, p. 102.
111. G. S. Ghurey, *op. cit.*, p. 78.
112. Marshall and Foucher, *op. cit.*, plates XXVII and XIII.
113. *Ibid.*, plate. XXIIIa.
114. *Rigveda*, I. 122.2; V. 55.6; I. 166.10; I.25.13.
115. A. L. Srivastava, *op. cit.*, p. 19.
116. N. G. Majumdar, *Monuments of Sanci*, Vol. 1, p. 347.
117. Vidhura Jataka no. 545; *Jatakas* (Hindi) (Prayag, 1941-55).
118. B. M. Barua, *op. cit.*, pl. LXIII, 73.
119. *Ibid.*, plate LXIV, 75.
120. *Ibid.*, plate LXIII, 72.
121. E. H. Johnston, A terracotta figure at Oxford, *J.I.S.O.A.* Vol. X, pp. 95-98.
122. *Ibid.*, plate xxxix, 34.
123. *Katha Samhita*, xiii. 10; *Āitareya Brahmana*, vi. 1, *Satpatha Brahmana*, III. 3.2.3; IV. 5.2.7; xiv. 21.8.
124. E. H. Johnston, 'A terracotta figure at Oxford', *J.I.S.O.A.* Vol. X, pp. 95-98.
125. P. L. Gupta, *op. cit.*, p. 36.
126. A. K. Narain and T. N. Roy, *Excavations at Prahlaḍpur*, pp. 11-12.
127. Cf. B. P. Sinha, *IAR* 1974-75, p. 8.
128. Cf. V. K. Misra, *IAR* 1976-77, p. 13.
129. Cf. H. Haertel, *IAR* 1966-67, p. 42.
130. R. C. Gaur, *Excavation at Atranjikhera*, p. 447.
131. Cf. Sita Ram Roy, *IAR* 1959-60, p. 16, plate XA.
132. Cf. Sita Ram Roy, *IAR* 1961-62, p. 5.
133. K. K. Sinha, *Excavations at Sravasti-1959*, pp. 69-71.
134. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
135. Marshall, *Taxila*.
136. K. Krishnamurty, *op. cit.*, p. 57.
137. Marshall and Foucher, *op. cit.*, plate XXV.
138. Marshall and Foucher, *op. cit.*, plate LXVIa.
139. *Ibid.*, plate LXIII.
140. P. D. Agnihotri, *Patanjali Kalin Bharata*, p. 204.
141. Northern Gateway, Back, Middle architrave, Southern gateway, West pillar, Inner face of Sanci.
142. E. H. Johnston, A terracotta figure at Oxford, *JISOA* Vol. X, pp. 95-98.
143. F. C. Maisey, *Sanchi and its remains*.
144. A. L. Srivastava, *op. cit.*, p. 38.
145. V. S. Agrawala, *op. cit.*, pp. 95-96.
146. A. Cunningham, *op. cit.*, plates XXII, XXIII, XLVIII, XLIX and XXIV.
147. Cf. G. M. Young, A New Hoard from Taxila, *A.I.* no. 1, pp. 27-36, plate IX. 1.



148. R. C. Gaur, *op. cit.*, pp. 420, 444.
149. Cf. B. P. Sinha, *IAR* 1968-69, p. 6.
150. Cf. B. P. Sinha, *IAR* 1972-73, pp. 6-7, *IAR* 1974-75, p. 8; *IAR* 1975-76, p. 7.
151. Cf. Sita Ram Roy, *IAR* 1961-62, p. 5.
152. Cf. K. M. Srivastava, *IAR* 1964-65, p. 35.
153. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
154. Cf. V. S. Wakankar, *IAR* 1964-65, p. 19; *IAR* 1967-68, p. 25.
155. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.
156. Cf. M. Venkataramayya, *IAR* 1954-55, pp. 15-16.
157. Cf. Vijay Kumar, *IAR* 1970-71, p. 32.
158. Cf. Vijay Kant Misra, *IAR* 1955-56, p. 22.
159. A. K. Narain and P. Singh, *Excavation at Rajghat III*, pp. 67-70.
160. K. K. Sinha, *op. cit.*, p. 58-71.
161. Cf. B. P. Sinha, *IAR* 1956-57, pp. 19-20.
162. Cf. N. R. Banerjee, *IAR* 1956-57, pp. 24-27.
163. A. K. Narain and P. Singh, *op. cit.*, plate XIX.
164. D. H. Gordon, 'Early Indian Terracottas', *J.I.S.O.A.* Vol. XI, p. 153.
165. No. 4177 in Patna Museum.
166. A. L. Srivastava, *op. cit.*, p. 38.
167. *Ibid.*
168. P. L. Gupta, *op. cit.*, p. 30.
169. *Rigveda*: I.122.4; I.122.14; I.166.10; II.33.10; IV 10.5; V.19.3; V.53.4; V.56.1.
170. *Arthashastra*; II.11.
171. K. Krishnamurty, *op. cit.*, pp. 69-70.
172. V. S. Agrawala, *op. cit.*, p. 102.
173. K. Krishnamurty, *op. cit.*, p. 71.
174. Cf. Lin Bodien, *op. cit.*, pp. 294-295.
175. A. L. Srivastava, *op. cit.*, p. 39.
176. *Ibid.*, p. 40.
177. 32.2241 in Mathura Museum.
178. K. Krishnamurty, *op. cit.*, pp. 73-74.
179. A. L. Srivastava, *op. cit.*, p. 41.
180. V. S. Agrawala, *op. cit.*, p. 102.
181. R. C. Gaur, *op. cit.*, p. 417.
182. K. K. Sinha, *op. cit.*, pp. 69-71.
183. Cf. N. R. Banerjee, *IAR* 1957-58, p. 36.
184. Cf. N. R. Banerjee, *IAR* 1955-56, pp. 11 and 14.
185. Cf. Sita Ram Roy, *IAR* 1961-62, p. 5.
186. R. C. Gaur, *op. cit.*, p. 377.
187. Cf. B. P. Sinha, *IAR* 1974-75, p. 8.
188. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
189. Cf. V. K. Misra, *IAR* 1955-56, p. 22.
190. Cf. A. K. Narain, *IAR* 1968-69, p. 41.
191. K. K. Sinha, *op. cit.*, pp. 58-60.
192. Cf. K. D. Bajpai, *IAR* 1974-75, p. 8.
193. Cf. K. K. Sinha, *IAR* 1958-59, p. 50.
194. Cf. R. C. Singh, *IAR* 1976-77, p. 54.
195. *Ibid.*
196. Cf. K. K. Sinha, *IAR* 1958-59, p. 50.
197. Cf. A. S. Attekar, *IAR* 1961-62, pp. 4-5.
198. Cf. R. B. Narain, *IAR* 1970-71, p. 39.
199. Cf. G. M. Young, *A.I.* no. 1, plate XA-1-8, 10, 12 and 13.
200. K. Krishnamurty, *op. cit.*, pp. 75-76.
201. S. Kramrishch in *J.I.S.O.A.*, Vol. VII, p. 108.
202. V. S. Agrawala, *op. cit.*, p. 102.
203. S. C. Kala, *Terracottas in the Allahabad Museum*, p. 24.
204. No. 8508 in Patna Museum.
205. K. Krishnamurty, *op. cit.*, p. 72.

206. B. Rowland, *op. cit.*, plate 6a.
207. G. R. Sharma, *Excavations at Kausambi*, p. 76, plate 45b.
208. A. K. Narain and T. N. Roy, *op. cit.*, pp. 47-48.
209. K. K. Sinha, *op. cit.*, pp. 60-66.
210. A. K. Narain and P. Singh, *op. cit.*, pp. 38-48.
211. R. C. Gaur, *op. cit.*, pp. 411-421.
212. Spherical shape was also found from Hastinapur, Rajghat and Sravasti. See B. B. Lal, *A.I.* no. 10 and 11; A. K. Narain and P. Singh, *op. cit.*, pp. 21-38; K. K. Sinha, *op. cit.*, pp. 60-66.
213. A. K. Narain and T. N. Roy, *op. cit.*, pp. 47-48.
214. K. K. Sinha, *op. cit.*, pp. 60-66.
215. R. C. Gaur, *op. cit.*, p. 445.
216. A. K. Narain and T. N. Roy, *op. cit.*, pp. 47-48.
217. A. K. Narain and P. Singh, *op. cit.*, pp. 21-48.
218. Cf. K. D. Bajpai, *IAR* 1960-61, p. 18; *IAR* 1961-62, p. 25.
219. A. K. Narain and P. Singh, *op. cit.*, pp. 21-48.
220. K. K. Sinha, *op. cit.*, pp. 60-66.
221. B. B. Lal, *A.I.* no. 8 (1952), pp. 34-62.
222. R. C. Gaur, *op. cit.*, p. 402.
223. B. B. Lal, *A.I.* nos. (1952), pp. 34-62.
224. A. K. Narain and T. N. Roy, *op. cit.*
225. A. K. Narain and P. Singh, *op. cit.*, pp. 21-48.
226. *Ibid.*
227. K. K. Sinha, *op. cit.*, pp. 60-66.
228. *Ibid.*, p. 10.
229. H. C. Beck, 'Beads from Taxila', *Memoirs of Archaeological Survey of India*, no. 65.
230. B. B. Lal, *A.I.* no. 10 and 11, fig., 29.
231. G. M. Young, 'A New hoard from Bhir Mound', *A.I.* no. 1. pp. 27-36, plates X B1, 3, 1 X B2, IX 4, 5.
232. Cf. B. P. Sinha, *IAR* 1964-65, p. 7.
233. R. C. Gaur, *op. cit.*, p. 421.
234. B. B. Lal, *A.I.* no. 8 (1952), pp. 34-42.
235. Cf. M. D. Khare, *IAR* 1963-64, pp. 16-17.
236. K. K. Sinha, *op. cit.*, pp. 60-66.
237. G. M. Young, 'A New Hoard from Bir Mound', *Taxila, A.I.* No. 1, pp. 27-36.
238. *Ibid.*
239. Cf. N. R. Banerjee, *IAR* 1957-58, p. 36.
240. B. P. Sinha and Sita Ram Rai, *Vaisali Excavations*, p. 172.
241. *Rigveda*, VIII. 97.1.
242. Banerjee & A. Sastri, 'The Nati of Pataliputra' (*I.H.Q.*, Vol. IX, 1933).
243. E. H. Johnston, 'A terracotta figure at Oxford', *J.I.S.O.A.* Vol. x, pp. 95-98.
244. Cf. J.S. Nigam, *IAR* 1975-76, p. 43.
245. K. K. Sinha, *op. cit.*, pp. 66-72.
246. B. B. Lal, *A.I.* 10 and 11, pp. 90-91.
247. R. A. Jairazbhoy, *Foreign influence in Ancient India*, p. 44.
248. A Kubera and a Yakshi of c. 1st cent. B. C. in State Museum, Vidisa.
249. *JUPHIS*, Vol. VI (Jan. 1933) pt. I, figs. 3 and 15.
250. K. M. Munshi, *The Saga of Indian Sculpture*, plate 4c.
251. S. K. Saraswati, *A Survey of Indian Sculpture*, plate viii, fig. 45.
252. Carol G. Lin Bodin, *op. cit.*, pp. 294-295.
253. H. Zimmer, *The art of Indian Asia*, vol. 2, plates 33a, b, c, 34a, 35a, b.
254. K. Krishnamurty, *op. cit.*, p. 77.
255. *IAR* 1968-69, p. 16, plate XVIII.
256. V. S. Agrawala, *op. cit.*, pp. 85-86.
257. B. Rowland, *op. cit.*, p. 75.
258. K. Krishnamurty, *op. cit.*, p. 77.
259. S. C. Kala, *op. cit.*, p. 24, fig. 48.
260. K. Krishnamurty, *op. cit.*, p. 77.
261. Cf. G. M. Young, *A.I.* no. 1, pp. 27-38, plate XA-9, 11, 15, 17, 19, 21.

262. Cf. N. R. Banerjee, *IAR* 1963-64, p. 44.
263. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
264. Cf. M. D. Khare, *IAR* 1964-65, p. 19.
265. Cf. K. D. Bajpai, *IAR* 1964-65, pp. 17-18.
266. Cf. R. C. Singh, *IAR* 1976-77, p. 54.
267. Cf. N. R. Banerjee, *IAR* 1955-56, p. 11 and 14.
268. Cf. Vijay Kumar, *IAR* 1964-65, p. 35.
269. Cf. K. M. Srivastava, *IAR* 1974-75, pp. 40-41.
270. Cf. B. B. Lal, *IAR* 1970-71, pp. 8, 10.
271. K. K. Sinha, *op. cit.*, pp. 71-72.
272. R. C. Gaur, *op. cit.*, p. 444.
273. Cf. K. D. Bajpai, *IAR* 1972-73, p. 16.
274. B. B. Lal, *A.I.* no. 10, 11, pp. 90-91.
275. *Arthaśāstra*, I. 21.26.
276. A. L. Srivastava, *op. cit.*, p. 45.
277. B. Rowland, *The Art and Architecture of India*, plate 24.
278. K. M. Munshi, *op. cit.*, plate 12b.
279. V. S. Agrawala, *op. cit.*, p. 102.
280. S. C. Kala, *op. cit.*, p. 24; Fig. 48.
281. H. Zimmer, *op. cit.*
282. K. K. Sinha, *op. cit.*, pp. 66-68.
283. B. B. Lal, *A.I.* nos. 10 and 11, p. 99.
284. P. Sen Gupta, *Everyday life in Ancient India*, p. 182; also V. S. Agrawala, *Indian Art*, p. 31; plate VIII.
285. Kalidas, *Malvikāgnimitram*, Raghuvansa (Ed.); G. R. Nandargikar, plate XII.
286. Marshall and Foucher, *op. cit.*, Vol. II, plate XII.
287. A. Cunningham, *op. cit.*
288. R. C. Gaur, *op. cit.*, p. 378.
289. Cf. R. C. Singh, *IAR* 1976-77, p. 54.
290. Cf. K. M. Srivastava, *IAR* 1964-65, p. 34.
291. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
292. Cf. M. D. Khare, *IAR* 1963-64, pp. 16-17.
293. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.
294. Cf. Vijay Kumar, *IAR* 1965-66, p. 38; *IAR* 1966-67, p. 31.
295. Cf. B. B. Lal, *IAR* 1978-79, p. 62.
296. A. K. Narain and T. N. Roy, *op. cit.*, p. 28.
297. U. V. Singh, *IAR* 1970-71, pp. 15-16.
298. K. K. Sinha, *op. cit.*, pp. 69-71.
299. Cf. A. S. Altkar, *IAR* 1956-57, pp. 19-20.
300. Cf. K. D. Bajpai, *IAR* 1972-73, p. 16.
301. B. B. Lal, *A.I.*; 10 and 11.
302. Marshall and Foucher, *op. cit.*, description of plate XIII.
303. C. Sivaramamurti, *op. cit.*, plate XI; also V. S. Agrawala, *op. cit.*, Fig. 87.
304. V. S. Agrawala, *Ibid.*, p. 159.
305. No. 2256 in Mathura Museum.
306. V. S. Agrawala, *op. cit.*, pp. 85-86.
307. R. C. Gaur, *op. cit.*, p. 444.
308. Cf. Dr. Romila Thapar, *IAR* 1970-71, p. 41.
309. Cf. Sita Ram Roy, *IAR* 1972-73, p. 7; *IAR* 1974-75, p. 10.
310. Cf. B. P. Sinha, *IAR* 1962-63, p. 6; *IAR* 1968-69, p. 6; *IAR* 1971-72; p. 6.
311. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
312. Cf. V. S. Vakankar, *IAR* 1967-68, p. 25.
313. Cf. Sita Ram Roy, *IAR* 1976-77, p. 12.
314. Cf. M. Venkatramayya, *IAR* 1954-55, pp. 15-16.
315. Cf. R. B. Narain, *IAR* 1965-66, p. 51; *IAR* 1970-71, p. 39.
316. Cf. N. R. Banerjee, *IAR* 1956-57, pp. 19, 24, 27.
317. Cf. N. R. Banerjee, *IAR* 1955-56, pp. 11 and 14.
318. Cf. B. B. Lal, *IAR* 1978-79, p. 62.
319. B. B. Lal, *A.I.* nos. 10 & 11, p. 105.

320. Cf. A. S. Altekar, *IAR* 1956-57, pp. 19-20.
321. K. K. Sinha, *op. cit.*
322. B. P. Sinha, Pataliputra excavations (1955-56), p. 55.
323. Cf. Sita Ram Roy, *IAR* 1961-62, p. 5.
324. K. K. Sinha, *op. cit.*
325. B. B. Lal, *A.I.* nos. 10 and 11.
326. Cf. Romila Thapar, *IAR* 1970-71, p. 41.
327. R. C. Gaur, *op. cit.*, p. 444.
328. Cf. R. B. Narain, *IAR* 1965-66, p. 51.
329. R. C. Agrawala, 'Early Indian Bone figures in the National Museum, New Delhi', *East and West*, Vol. XVIII, nos. 3-4, p. 312, figs. 11-14.
330. *Ibid.*, p. 311, figs. 1-2.
331. Marshall, *op. cit.*, p. 658, nos. 45 and 47, plate 203.
332. Cf. N. R. Banerjee, *IAR* 1957-58, p. 36.
333. B. B. Lal, *A.I.* Nos. 10 and 11, p. 105, plate LX.5.
334. Marshall and Foucher, *op. cit.*
335. V. S. Agrawala, *op. cit.*, figs. 86-87.
336. No. 2256 in Mathura Museum.
337. No. 79.23 in State Museum, Lucknow.
338. R. C. Gaur, *op. cit.*, p. 419.
339. Cf. N. R. Banerjee, *IAR* 1956-57, pp. 24-27.
340. R. C. Gaur, *op. cit.*, p. 444.
341. B. B. Lal, *A.I.* 10 and 11.
342. Cf. B. P. Sinha, *IAR* 1972-73, pp. 6-7.
343. Cf. Vijaya Kumar, *IAR* 1970-71, p. 32.
344. Cf. N. R. Banerjee, *IAR* 1956-56, pp. 11, 14.
345. K. K. Sinha, *op. cit.*, pp. 69-71.
346. John Marshall, *Taxila II*, p. 664.
347. Cf. N. R. Banerjee, *IAR* 1956-57, pp. 19-27.
348. P. L. Gupta, *op. cit.*, p. 36.
349. No. 34-2372 in Mathura Museum.
350. Motichandra, *op. cit.*, p. 199.
351. *Rāmāyana*. II, 93.13.
352. J. B. Bhushan, *op. cit.*, p. 24.
353. D. R. Bhandarkar, 'Excavations at Besnagar', *ASI-AR* 1913-14 (1917), plate LIX.13.
354. C. C. Das Gupta, *op. cit.*, p. 147.
355. Marshall & Foucher, *op. cit.*, plates XXV, XXVI, XXX and XXXI.
356. V. S. Agrawala, *op. cit.*, p. 102.
357. P. L. Gupta, *op. cit.*, p. 27.
358. No. 6612 in Patna Museum.
359. Marshall and Foucher, *op. cit.*, plate XI.
360. S. C. Kala, *op. cit.*, p. 24.
361. P. L. Gupta, *op. cit.*, p. 27.
362. No. 39. 2833 in Mathura Museum.
363. P. L. Gupta, *op. cit.*, p. 32.
364. P. L. Gupta, *Ibid.*, p. 33.
365. V. S. Agrawala, 'Terracotta figurines of Ahichchhatra', *A.I.* no. 4, 1947-48, p. 107 ff.
366. A. L. Srivastava, *op. cit.*, p. 28; cf-Marshall and Foucher, *op. cit.*, plate XLIV; cf. V.S. Agrawala, *Indian Art* fig. 137b on plate XL shows a lady on a pillar at Mathura wearing similar type of head gear. This headdress was seen in terracottas from Ahichchhatra belonging to Gupta period, *Sec A.I.* no. 4, figs. 223, 227, 242, 243.
367. Marshall and Foucher, *op. cit.*, plate XXVII.
368. J. W. McCrindle, *op. cit.*, pp. 73-74; vide P. Sen Gupta, *op. cit.*, p. 183.
369. Marshall and Foucher, *op. cit.*, plate LXI.
370. Marshall, *op. cit.*, p. 51; vide Marshall and Foucher, *op. cit.*, Vol. 2; description of plate XI.
371. P. L. Gupta, *op. cit.*, p. 32.
372. No. 35-2556 in M.M.
373. No. 71-12 in M.M.

374. No. 59.527/1 in National Museum, New Delhi.
375. *Rigveda*, X. 142.4; *Atharvaveda*, VIII. 2.17; *Ashtadhyayi*, II. 2.9 and VI.2.151; *Arthashastra*, I.27.
376. P. D. Agnihotri, *op cit.*, p. 205.
377. Marshall and Foucher, *op cit.*, Vol. 2, plaes XXIII and XXIX.
378. H. Zimmer, *op cit.*, plate X.
379. No. 59. 527/1 in National Museum, New Delhi.
380. Nos. 71-72, 36.2702 and 32-2227 in M.M.
381. P. K. Acharya, *Hindu Architecture* VI, p. 73.
382. K. Krishnamurty, *Ancient Indian Furniture*, p. 13.
383. B. M. Barua, *op cit.*, plate XCII, 137.
384. B. M. Barua, *op cit.*, plate LXX, 87. vide A. Cunningham, *op cit.*, plate XLVIII. 2.
385. Barua, *Ibid.*, plate LXXXIV, 125.
386. Marshall and Foucher, *op cit.*, Vol. II, plate XLIII.
387. Marshall and Foucher, *Ibid.*, Vol. III, plate XCVI, cf. K. Krishnamurty, *op cit.*, pp. 14-15.
388. K. Krishnamurty, *Ibid*
389. *Ibid.*, p. 45.
390. B. M. Barua, *op cit.*, plate LXXXIX, No. 133.
391. *Ibid.*, plate XXXV, No. 26.
392. A. L. Srivastava, *op cit.*, p. 68.
393. P. K. Acharya, *op cit.*, p. 73.
394. F. C. Maiscy, *op cit.*, plate XXII, Fig. 1.
395. B. N. Barua, *op cit.*, plate XXXVI, No. 30; cf. K. Krishnamurty, *op cit.*, p. 46.
396. A. L. Srivastava, *op cit.*, p. 69.
397. K. Krishnamurty, *op cit.*, pp. 46-47.
398. *Ibid.*, p. 47, cf. B.M. Barua, *op cit.*, plate XCI, 140.
399. *Ibid.*, p. 47, cf. *Ibid.*, plate XCI, 140.
400. F. C. Maiscy, *op cit.*, plate XXXII, fig. 1.
401. Marshall and Foucher, *op cit.*, Vol. II, plate XLIX-b, c.
402. Q. 67 in National Museum.
403. B. M. Barua, *op cit.*, plate XCVII, 148c; cf. K. Krishnamurty, *op cit.*, p. 47.
404. *Ibid.*, plate XCI, No. 136; cf. *Ibid.*, p. 47.
405. *Ibid.*, plate LXXXIII, 120; cf. *Ibid.*
406. A. L. Srivastava, *op cit.*, p. 69.
407. K. Krishnamurty, *op cit.*, p. 61; cf. Marshall and Foucher, *op cit.*, plate CIII-e.
408. K. Krishnamurty, *op cit.*, pp. 66-67; cf. Barua, *op cit.*, plate LXXXIX, 133; LXXXIX, 135; cf. Marshall and Foucher, *op cit.*, Vol. II, plates XLIXa and LXIII.
409. *Ibid.*, p. 75; cf. F.C. Maiscy, *op cit.*, plate XVI.
410. *Ibid.*, p. 74; cf. B.M. Barua, *op cit.*, plate XXVI, 21-24.
411. *Mahāvagga*, V. 10.3 (tr. p. 27), vide P.K. Acharya, *op cit.*, p. 74.
412. *Chullavagga*, VI. 2.6 (tr., p. 167); vide *Ibid.*
413. K. Krishnamurty, *op cit.*, pp. 78-79; cf. B.M. Barua, *op cit.*, plate XIV-10a.
414. A. Cunningham, *op cit.*, p. 125.
415. *Strabo's geography*, Book XV. 20, pp. 25-26 vide J.W. McCrindle, *Ancient India as described in classical literature* (Westminster, 1901).
416. K. Krishnamurty, *op cit.*, p. 81.
417. B. M. Barua, *op cit.*, plate XXVI. 21-24.
418. Marshall and Foucher, *op cit.*, Vol. II, plate XXXIV.a.
419. *Ibid.*, plate XXXV.A.
420. *Chullavagga* VI. 20.1 (tr.) p. 219; *Mahāvagga* VIII, 18 (tr.) p. 227 and *Chullavagga* V.9.4 and VI. 19 (tr.).
421. K. Krishnamurty, *op cit.*, p. 142.
422. *Ibid.*, p. 143.
423. Cf. N.R. Banerjee, *IAR* 1963-64, p. 44.
424. Cf. Romila Thapar, *IAR* 1970-71, p. 41.
425. Cf. K. M. Srivastava, *IAR* 1964-65, p. 34.
426. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
427. Cf. M. D. Khare, *IAR* 1963-64, pp. 16-17.
428. Cf. B. P. Sinha, *IAR* 1968-69, p. 6.

429. Cf. R. B. Narain, *IAR* 1965-66, p. 51.
430. Cf. N. R. Banerjee, *IAR* 1955-56, pp. 11, 14.
431. Cf. R. C. Agrawala, *IAR* 1963-64, p. 29.
432. Cf. K. M. Srivastava, *IAR* 1975-76, p. 50.
433. A. K. Narain and T. N. Roy, *op. cit.*, p. 62, plate XXVI.
434. Cf. B. P. Sinha, *IAR* 1960-61, pp. 4-5.
435. K. K. Sinha, *op. cit.*, pp. 58-73.
436. Cf. M. G. Dixit, *IAR* 1965-66, p. 22.
437. Cf. N. R. Banerjee, *IAR* 1955-56, p. 19.
438. R. C. Gaur, *op. cit.*, pp. 379-411.
439. A. K. Narain and T. N. Roy, *op. cit.*, p. 28.
440. Cf. R. C. Agrawala, *IAR* 1963-64, p. 29.
441. Cf. K. M. Srivastava, *IAR* 1975-76, p. 50.
442. K. K. Sinha, *op. cit.*, pp. 72-73.
443. Cf. M. G. Dixit, *IAR* 1965-66, p. 22.
444. R. C. Gaur, *op. cit.*, pp. 410-11.
445. Cf. R. B. Narain, *IAR* 1965-66, p. 51.
446. A. K. Narain and T. N. Roy, *op. cit.*, p. 62, plate XXVI.
447. K. K. Sinha, *op. cit.*, pp. 58-60.
448. R. C. Gaur, *op. cit.*, p. 379.
449. K. Krishnamurty, *op. cit.*, p. 143.
450. Cf. M. D. Khare, *IAR* 1963-64; pp. 16-17.
451. R. C. Gaur, *op. cit.*, pp. 381-382.
452. C. Siva Ram Murty, *Some Aspects of Indian Culture*, fig. 140.
453. A. Cunningham, *op. cit.*, p. 125.
454. Cf. Romila Thapar, *IAR* 1970-71, p. 41.
455. Cf. B. P. Sinha, *IAR* 1968-69, p. 6.
456. Cf. A. S. Atikar, *IAR* 1959-60, p. 14.
457. R. C. Gaur, *op. cit.*, p. 440.
458. Cf. K. M. Srivastava, *IAR* 1975-76, p. 50.
459. Cf. Raghbir Singh, *IAR* 1974-75, p. 11.
460. K. K. Sinha, *op. cit.*, pp. 66-88.
461. Cf. B. P. Sinha, *IAR* 1966-67, p. 6.
462. K. K. Sinha, *op. cit.*, pp. 72-73.
463. Cf. B. B. Lal, *A.I.* nos. 10, 11, plate LX, 8.
464. R. C. Gaur, *op. cit.*, p. 444.
465. Cf. S. N. Chaturvedi, *IAR* 1974-75, p. 47.
466. Cf. N. R. Banerjee, *IAR* 1956-57, pp. 24-27.
467. *Ibid.*
468. B. B. Lal, *A.I.* nos. 10 and 11, p. 165, plate LX, 7.
469. R. C. Gaur, *op. cit.*, p. 379.
470. B. B. Lal, *A.I.* no. 10 and 11, p. 165.
471. R. C. Gaur, *op. cit.*, p. 445.
472. B. B. Lal, *A.I.* no. 10 and 11; p. 99 fig. 32, no. 23.
473. B. P. Sinha, *Patna Excavations 1955-56*; p. 455.
474. K. Krishnamurty, *op. cit.*, p. 144.
475. S. C. Kala, *op. cit.*, p. 16.
476. 71-12 from Mathura Museum.
477. Cf. N. R. Banerjee, *IAR* 1963-64, p. 44.
478. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
479. Cf. M. D. Khare, *IAR* 1976-77, p. 33.
480. Cf. B. P. Sinha, *IAR* 1968-69, p. 6.
481. Cf. B. P. Sinha, *IAR* 1969-70, p. 2.
482. Cf. K. N. Dixit, *IAR* 1978-79, p. 61.
483. Cf. R. C. Singh, *IAR* 1976-77, p. 54.
484. Cf. N. R. Banerjee, *IAR* 1955-56, p. 1954-55.
485. Cf. D. R. Patil, *IAR* 1953-54, 1961-62, 1962-63, Raghbir Singh.
486. Cf. G. R. Sharma, *IAR* 1953-54, 1955-56, 1956-57, 1957-58, 1958-59, 1960-61, 1961-62, 1962-63, 1963-64, 1966-67.

487. Cf. K. P. Jayaswal, *JAR* 1953-54. Research Institute.
488. Cf. V. K. Mishra, *JAR* 1955-56.
489. Cf. K. K. Sinha, *JAR* 1955-56, 1958-59.
490. Cf. V. K. Mishra, A. S. Altekar, B. S. Verma, *JAR* 1956-57, 1959-60, 1960-61, 1961-62.
491. Cf. Sita Ram Roy, *JAR* 1957-58, 1958-59, 1959-60, 1960-61, 1961-62.
492. Cf. B. P. Sinha, *JAR* 1968-69, 1969-70, 1970-71, 1971-72.
493. Cf. B. B. Lal, *JAR* 1954-55.
494. Cf. B. K. Thapar, *JAR* 1973-74, 1974-75, 1975-76, 1976-77 and M. C. Joshi.
495. Cf. A. K. Narain, *JAR* 1955-56, 1961-62.
496. Cf. M. M. Nagari, *JAR* 1956-57, 1957-58, 1961-62, R. C. Singh, 1975-76.
497. Cf. A. K. Narain and T. N. Roy, *JAR* 1957-58, 1960-61, 1961-62, 1963-64.
498. Cf. A. K. Narain and T. N. Roy, *JAR* 1961-62, 1962-63.
499. Cf. R. C. Gaur, *JAR* 1960-61, 1961-62, 1962-63, 1963-64, 1965-66, 1966-67, 1967-68.
500. Cf. G. C. Pande, *JAR* 1961-62; S. N. Chaturvedi, *JAR* 1974-75.
501. Cf. Dept. of Archaeology, U.P., *JAR* 1962-63.
502. Cf. N. R. Banerjee, *JAR* 1963-64, 1964-65.
503. Cf. V. S. Wakankar, *JAR* 1964-65, 1967-68.
504. Cf. B. P. Sinha, *JAR* 1965-66, 1966-67.
505. Cf. R. B. Narain, *JAR* 1965-66, 1967-68.
506. Cf. A. K. Narain, *JAR* 1967-68.
507. Cf. Y. D. Sharma, *JAR* 1953-54.
508. Cf. N. R. Banerjee, *JAR* 1955-56.
509. Cf. N. R. Banerjee, *JAR* 1955-56, 1956-57, 1964-65.
510. Cf. Vijay Kumar, *JAR* 1955-56, 1963-64, 1964-65.
511. Cf. K. D. Bajpai, *JAR* 1960-61, 1963-64.
512. Cf. B. S. Verma, *JAR* 1958-59, 1962-63, 1963-64, 1964-65.
513. Cf. R. C. Agrawala, *JAR* 1961-62.
514. Cf. Sita Ram Roy, *JAR* 1962-63.
515. Cf. B. P. Sinha, *JAR* 1963-64.
516. Cf. M. D. Khare, *JAR* 1963-64, 1964-65.
517. Cf. J. Marshall, *op. cit.*
518. Cf. M. G. Dixit, *JAR* 1965-66, K. D. Bajpai, *JAR* 1966-67, 1967-68.
519. Cf. N. R. Banerjee, *JAR* 1956-57, pp. 20-27.
520. Cf. K. K. Sinha, *Puratattva* no. 5, pp. 30-31.
521. Cf. D. R. Patil, *JAR* 1953-54; Raghbir Singh, *JAR*, 1961-62, 1962-63.
522. Cf. Sita Ram Roy, *JAR* 1959-60, 1960-61, 1961-62.
523. Cf. G. R. Sharma, *op. cit.*
524. A. K. Narain and T. N. Roy, *Excavations at Rajghat II*.
525. Cf. K. K. Sinha, *Puratattva* no. 5, p. 31.
526. Cf. D. R. Patil, *JAR* 1953-54, p. 9; cf. Raghbir Singh, *JAR* 1962-63, p. 5; *JAR* 1961-62, p. 8. *JAR* 1974-75, pp. 10-11.
527. B. P. Sinha and Sita Ram Roy, *op. cit.*, p. 40 ff.
528. A. K. Narain and T. N. Roy, *op. cit.*, Vol. II, p. 26 ff.
529. K. K. Sinha, *op. cit.*, p. 41 ff.
530. G. R. Sharma, *op. cit.*, p. 59 ff.
531. J. Marshall, *op. cit.*
532. Cf. B. B. Lal, *A.I.*, Nos. 10 and 11 (1954-55), p. 52 ff.
533. R. C. Gaur, *op. cit.*, p. 298 ff.
534. K. P. Jayaswal research institute; *JAR* 1953-54, p. 10.
535. Cf. Y. D. Sharma, *JAR* 1953-54; pp. 6-7.
536. Cf. N. R. Banerjee, *JAR* 1955-56, 1956-57, p. 19 and pp. 20-27, respectively.
537. R. C. Majumdar, *op. cit.*, p. 537.
538. K. P. Jayaswal Research Institute; *JAR* 1953-54, p. 10.
539. A. Ghosh, *Puratattva* no. 5 (1971-72), p. 33.
540. Cf. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 40-42.
541. Cf. B. B. Lal, *JAR* 1978-79, p. 56.
542. Cf. R. C. Gaur, *op. cit.*, p. 354.
543. Cf. B. B. Lal, *A.I.* no. 10 and 11 (1954-55), pp. 52-62.

544. Cf. K. K. Sinha, *Puratattva* no. 5, p. 31.
545. *Ibid.*
546. *Chhavi-2*, p. 272.
547. A. K. Narain and T. N. Roy, *op. cit.*, pp. 20-21.
548. K. K. Sinha, *op. cit.*, pp. 9-10.
549. Cf. A. Ghosh in *A.I.* no. 7 (Jan. 1951) pp. 71-78.
550. A. K. Narain and T. N. Roy, *op. cit.*, pp. 20-21.
551. A. K. Narain and P. Singh, *op. cit.*, Vol. III, pp. 55-65.
552. Cf. T. N. Roy, *IAR* 1971-72, p. 49.
553. R. C. Gaur, *op. cit.*, p. 393.
554. Cf. N. R. Banerjee, *IAR* 1956-57, pp. 24-27.
555. Cf. K. M. Srivastava, *IAR* 1974-75, pp. 40-41 and *IAR* 1975-76, p. 50.
556. K. K. Sinha, *op. cit.*, pp. 58-60.
557. Cf. N. R. Banerjee, *IAR* 1955-56, p. 19.
558. Cf. Vijay Kumar, *IAR* 1965-66, p. 38.
559. A. K. Narain and T. N. Roy, *op. cit.*, p. 28.
560. Cf. K. M. Srivastava, *IAR* 1975-76, p. 50.
561. Cf. R. B. Narain, *IAR* 1970-71, p. 39.
562. Cf. Sita Ram Roy, *IAR* 1976-77, p. 12.
563. R. C. Gaur, *op. cit.*, p. 379.
564. Cf. K. M. Srivastava, *IAR* 1964-65, p. 34.
565. Cf. N. R. Banerjee, *IAR* 1955-56, p. 19.
566. Cf. Sita Ram Roy, *IAR* 1961-62, p.
567. Cf. B. B. Lal in *A.I.* 10 & 11 (1954-55), pp. 52-62.
568. R. E. M. Wheeler, *Early India and Pakistan*, p. 30 cf. Miss Bimson, *Puratattva* No. 5 (1971-72), pp. 61-62.
569. Cf. M. C. Joshi, *Puratattva* no. 5 (1971-72), p. 36.
570. *Ibid.*
571. Cf. Dr. Lal, *Puratattva* no. 5 (1971-72), p. 35.
572. Cf. R. C. Gaur, *Puratattva* no. 5 (1971-72), p. 34.
573. A. K. Narain and T. N. Roy, *op. cit.*, p. 37.
574. *Ibid.*, p. 37.
575. A. K. Narain and T. N. Roy, *op. cit.*, p. 37.
576. A few sherds from Katragarh show floral decorations stamped on them. See *IAR* 1977-78, p. 16 by Sita Ram Roy.
577. A. K. Narain and P. Singh, *op. cit.*, pp. 26-27.
578. &
579. Central Antiquity (Purana Qila, New Delhi) Personal observation. I am grateful to Mr. J. P. Joshi for providing facility to show pottery collection at Purana Qila.
580. K. K. Sinha, *op. cit.*, p. 42.
581. B. B. Lal, *A.I.* 10 and 11, pp. 52-62.
582. Cf. B. B. Lal, *IAR* 1970-71, p. 8.
583. Personal observation at Central Antiquity, Purana Qila.
584. *Ibid.*
585. A. K. Narain and P. Singh, *op. cit.*, p. 27.
586. *Ibid.*, pp. 87-89.
587. G. R. Sharma, *op. cit.*, plate 55, fig. 15, pp. 71-73.
588. Cf. B. P. Sinha, *IAR* 1971-72, p. 5.
589. A. K. Narain and P. Singh, *op. cit.*, p. 87.
590. A. K. Narain and P. Singh, *op. cit.*, pp. 87-89.
591. *Ibid.*
592. Cf. A. K. Narain, *IAR* 1967-68, pp. 48-49.
593. G. R. Sharma, *op. cit.*, p. 59.
594. Cf. K. K. Sinha, *op. cit.*, pp. 9-10.
595. Personal observation at Central Antiquity, Purana Qila in New Delhi.
596. Cf. Raghbir Singh, *IAR* 1961-62, p. 8.
597. Cf. Sita Ram Roy, *IAR* 1977-78, p. 16.
598. Cf. B. P. Sinha, *IAR* 1971-72, p. 5.



599. A. K. Narain and T. N. Roy, *op. cit.*, pp. 34-36.
600. Cf. N. R. Banerjee, *IAR* 1956-57, pp. 20-27.
601. K. K. Sinha, *op. cit.*, pp. 9-10.
602. A. K. Narain and T. N. Roy, *op. cit.*, pp. 22-23.
603. Cf. A. Ghosh in *A.I.* no. 7 (Jan; 1951), pp. 71-78.
604. Cf. B. B. Lal, *A.I.* nos. 10 and 11 (1954-55), pp. 52-62.
605. Cf. N. R. Banerjee, *IAR* 1963-64, p. 44.
606. Cf. R. C. Singh, *IAR* 1978-79, p. 74.
607. Cf. N. R. Banerjee, *IAR* 1963-64, p. 44.
608. R. C. Gaur, *op. cit.*, p. 298-362.
609. Cf. Sita Ram Roy, *IAR* 1976-77, p. 12.
610. *Ibid.*, 1974-75, p. 10.
611. Cf. K. N. Dixit, *IAR* 1978-79, pp. 60-61.
612. Cf. N. R. Banerjee, *IAR* 1963-64, p. 44.
613. Cf. R. C. Singh, *IAR* 1975-76, p. 52.
614. Cf. Sita Ram Roy, *IAR* 1976-77, p. 12.
615. Cf. N. R. Banerjee, *IAR* 1963-64, p. 44.
616. Cf. Y. D. Sharma, *A.I.* No. 9 (1953), pp. 146-147.
617. A. K. Narain and T. N. Roy, *op. cit.*, pp. 30-32.
618. *Ibid.*, (Varanasi, 1977) pp. 49 ff.
619. *Ibid.*
620. Cf. N. R. Banerjee, *IAR* 1963-64, p. 44.
621. R. C. Gaur, *op. cit.*, (Delhi, 1983), pp. 298-362.
622. Cf. Sita Ram Roy, *IAR* 1974-75, p. 10.
623. Cf. K. N. Dixit, *IAR* 1978-79, pp. 60-61.
624. Cf. Sita Ram Roy, *IAR* 1976-77, p. 12.
625. Cf. Y. D. Sharma, *IAR* 1958-59; pp. 54-55.
626. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.
627. Cf. N. R. Banerjee, *IAR* 1963-64, p. 44.
628. A. K. Narain and T. N. Roy, *op. cit.*, pp. 31-34.
629. Cf. K. N. Dixit, *IAR* 1978-79, plate XXXVI-A, pp. 60-61.
630. Cf. R. C. Singh, *IAR* 1978-79, p. 74.
631. A. K. Narain and T. N. Roy, *op. cit.*, pp. 31-34.
632. Cf. Y. D. Sharma, *A.I.*, No. 9 (1953), p. 145.
633. A. K. Narain and T. N. Roy, *op. cit.*, p. 38.
634. A. K. Narain and T. N. Roy, *Ibid.*, pp. 26-27.
635. Cf. Y. D. Sharma, *A.I.*, No. 9 (1953), p. 145.
636. Cf. R. C. Singh, *IAR* 1978-79, p. 74.
637. Cf. V. S. Wakankar, *IAR* 1967-68, p. 25.
638. Cf. K. N. Dixit, *IAR* 1978-79; pp. 60-61.
639. Cf. Y. D. Sharma, *IAR* 1958-59; pp. 54-55.
640. Cf. Sita Ram Roy, *IAR* 1974-75; p. 10.
641. Cf. B. B. Lal, *IAR* 1970-71, p. 8.
642. Cf. K. N. Dixit, *IAR* 1978-79; pp. 60-61.
643. &
644. Cf. Sita Ram Roy, *IAR* 1975-76; p. 8.
645. A. K. Narain and T. N. Roy, *op. cit.*, p. 51.
646. A. K. Narain and T. N. Roy, *Ibid.*, pp. 36-38.
647. K. Krishnamurty, *op. cit.*, pp. 133-134.
648. *Ibid.*
649. A. Cunningham, *op. cit.*, p. 125.
650. C. Siva Rammurty, *op. cit.*, p. 57.
651. K. Krishnamurty, *op. cit.*, p. 135.
652. During the excavation of Chirand, a *Kamandalu*, a noteworthy specimen in grey ware was found. The pot has a round pedestal and a partially broken spouted mouth. It also has a handle. See cf. B. P. Sinha, *IAR* 1970-71, p. 7 (PLATE : LIII-3).
653. K. Krishnamurty, *op. cit.*, p. 133.
654. *Ibid.*

655. *Ibid.*, p. 136.
656. A. L. Srivastava, *op. cit.*, p. 72.
657. K. Krishnamurty, *op. cit.*, p. 132.
658. B. M. Barua, *op. cit.*, plate XCI-138, 140.
659. A. L. Srivastava, *op. cit.*, p. 73. The possibility of this cylindrical box as a toilet case cannot be ruled out.
660. *Ibid.*
661. K. Krishnamurty, *op. cit.*, pp. 136-137.
662. *Ibid.*
663. Cf. B. P. Sinha, *IAR* 1974-75, p. 8.
664. B. P. Sinha, *op. cit.*, 1955-56, p. 55, plate XXVI.
665. Cf. B. B. Lal, *IAR* 1978-79, p. 59.
666. K. Krishnamurty, *op. cit.*, p. 140.
667. *Ibid.*
668. B. M. Barua, *op. cit.*, plates LXXVIII-106, LXXXIII-121.
669. A. L. Srivastava, *op. cit.*, p. 73.
670. B. M. Barua, *op. cit.*, p. 32.
671. Cf. K. M. Srivastava, *IAR* 1971-72, p. 45.
672. Cf. B. P. Sinha and Sita Ram Roy, *IAR* 1959-60, p. 16 cf. (Patna; 1969), p. 16.
673. R. C. Gaur, *op. cit.*, p. 384.
674. V. S. Agrawala, *Sarnath*, p. 17.
675. Cf. Vijaya Kumar, *IAR* 1970-71, p. 32; cf. *IAR* 1971-72, p. 42.
676. Cf. B. Ch. Chhabra, *IAR* 1965-66, p. 36.
677. Cf. N. R. Banerjee, *IAR* 1957-58, p. 36.
678. A. L. Srivastava, *op. cit.*, p. 73.
679. Cf. V. S. Wakankar, *IAR* 1978-79, pp. 70-71.
680. Strabo, *Strabo's geography*, book XV.1.69 vide J. W. McCrindle, *op. cit.*
681. *Ibid.*, book XV. 67 vide *ibid.*, p. 73.
682. R. C. Gaur, *op. cit.*, p. 442.
683. Cf. Vijay Kumar, *IAR* 1971-72, p. 42.
684. Cf. H. Haertal, *IAR* 1970-71, p. 40.
685. Cf. N. R. Banerjee, *IAR* 1955-56, pp. 11-14.
686. B. B. Lal, *A.I.* no. 10 and 11.
687. R. C. Gaur, *op. cit.*, p. 445.
688. Cf. K. M. Srivastava, *IAR* 1975-76, p. 50.
689. A. K. Narain and T. N. Roy, *op. cit.*, pp. 11-12.
690. Cf. B. P. Sinha, *IAR* 1974-75, 8.
691. K. Krishnamurty, *op. cit.*, p. 202.
692. *Ibid.*
693. No. 50.18 in State Museum, Lucknow and No. 76.71 in the National Museum, New Delhi.
694. A. L. Srivastava, *op. cit.*, p. 89.
695. *Ibid.*
696. No. 32.2278 in Mathura Museum.
697. A. L. Srivastava, *op. cit.*, p. 90.
698. *Ibid.*, p. 91.
699. *Ibid.*, p. 91.
700. *Ibid.*
701. No. 74.55 in National Museum, New Delhi.
702. No. 74.205 in National Museum, New Delhi.
703. V. S. Agrawala, *Indian Art*, pp. 308-315.
704. A. L. Srivastava, *op. cit.*, p. 92.
705. K. Krishnamurty, *op. cit.*, p. 200.
706. A. L. Srivastava, *op. cit.*, p. 92.
707. *Ibid.*
708. *Ibid.*
709. No. K 5329 in Allahabad Museum.
710. A. L. Srivastava, *Ibid.*, p. 93.
711. *Ibid.*, p. 94.

712. Cunningham, *op. cit.*, p. 126.  
 713. A. L. Srivastava, *op. cit.*, p. 94.  
 714. *Ibid.*  
 715. B. M. Barua, *op. cit.*, p. 3.  
 716. *Ibid.*, p. 67.  
 717. *Ibid.*, p. 67.  
 718. S. C. Kala, *op. cit.*, p. 45.  
 719. V. S. Agrawala, *Indian Art*, p. 308-315.  
 720. *Ibid.*  
 721. S. C. Kala, *op. cit.*, p. 59. cf. No. 60.436 in National Museum.  
 722. *Ibid.*, p. 46.  
 723. B. M. Barua, *op. cit.*, p. 67.  
 724. J. W. McCrindle, *op. cit.*, Section II, Strabo's Geography Book XV. 22, p. 28.  
 725. B. M. Barua, *op. cit.*, p. 68.  
 726. Chavi, *Rai Krishna Das felicitation*, Volume 2, p. 32.  
 727. A. L. Srivastava, *op. cit.*, p. 94.  
 728. B. M. Barua, *op. cit.*, Vol. III, p. 68.  
 729. A. Cunningham, *op. cit.*, p. 126.  
 730. A. L. Srivastava, *op. cit.*, p. 94 and cf. K. Krishnamurty, *op. cit.*, p. 125.  
 731. Cf. B. K. Thapar, *IAR* 1975-76; pp. 53, 55.  
 732. Cf. B. B. Lal, *IAR* 1970-71, pp. 8, 10.  
 733. A. L. Srivastava, *op. cit.*, p. 95; cf. Krishnamurthy, *op. cit.*, p. 126.  
 734. A. Cunningham, *op. cit.*, p. 126.  
 735. Krishnamurthy, *op. cit.*, p. 126.  
 736. Cunningham, *op. cit.*, p. 126.  
 737. Krishnamurthy, *op. cit.*, p. 127.  
 738. A. L. Srivastava, *op. cit.*, p. 95.  
 739. *Ibid.*  
 740. A. L. Srivastava, *op. cit.*, p. 95.  
 741. A. Cunningham, *op. cit.*, p. 126.  
 742. A. L. Srivastava, *op. cit.*, p. 96.  
 743. *Ibid.*  
 744. B. M. Barua, *op. cit.*, p. 67.  
 745. B. M. Barua, *op. cit.*, p. 67.  
 746. A. L. Srivastava, *op. cit.*, p. 96.  
 747. No. 81.474 in National Museum, New Delhi.  
 748. Nos. 48.3/5 and 68.47 in National Museum, New Delhi.  
 749. K. Krishnamurthy, *op. cit.*, pp. 198-199.  
 750. R. Samsastri (tr.) (Mysore 1967), *Arthasastra* iii; p. 20.  
 751. Cf. M. M. Nagar, *IAR* 1957-58, p. 49.  
 752. Cf. N. R. Banerjee, *IAR* 1956-57, pp. 24-27.  
 753. Cf. Vijay Kumar, *IAR* 1965-66; p. 38 and *IAR* 1966-67, p. 31.  
 754. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.  
 755. R. C. Gaur, *op. cit.*, p. 375, 419.  
 756. Cf. Vijay Kumar, *IAR* 1965-66, p. 38; *IAR* 1966-67, p. 31.  
 757. Cf. B. B. Lal, *IAR* 1978-79, p. 62.  
 758. Cf. K. M. Srivastava, *IAR* 1974-75, pp. 40-41; *IAR* 1975-76, p. 50.  
 759. A. K. Narain and T. N. Roy, *op. cit.*, p. 28.  
 760. Cf. N. R. Banerjee, *IAR* 1956-57, p. 24-27.  
 761. A. K. Narain and P. Singh, *op. cit.*, pp. 67-70.  
 762. R. C. Gaur, *op. cit.*, p. 419.  
 763. A. K. Narain and T. N. Roy, *op. cit.*, p. 56.  
 764. Cf. A. K. Narain, *IAR* 1967-68, p. 49.  
 765. Cf. A. K. Narain, *IAR* 1969-70, p. 40.  
 766. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.  
 767. Cf. Sita Ram Roy, *IAR* 1972-73, p. 7.  
 768. Cf. R. B. Narain, *IAR* 1967-68, p. 47.  
 769. Cf. N. R. Banerjee, *IAR* 1955-56, pp. 11, 14.

770. Cf. B. P. Singh and T. N. Roy, *IAR* 1962-63, p. 41.
771. A. K. Narain and P. Singh, *op. cit.*, pp. 55-65.
772. Cf. N. R. Banerjee, *IAR* 1955-56, p. 19.
773. Cf. Sita Ram Roy, *IAR* 1961-62.
774. Cf. K. D. Bajpai, *IAR* 1964-65, pp. 17-18.
775. R. C. Gaur, *op. cit.*, p. 411.
776. *IAR* 1977-78, p. 15.
777. Cf. D. R. Patil, *IAR* 1954-55, p. 16.
778. Cf. N. R. Banerjee, *IAR* 1955-56, pp. 11, 14.
779. A. K. Narain and P. Singh, *op. cit.*, pp. 55-65.
780. *A.I.* no. 4, p. 78.
781. R. C. Gaur, *op. cit.*, p. 382.
782. R. C. Gaur, *Ibid.*, p. 447.
783. R. C. Gaur, *op. cit.*, p. 375.
784. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
785. A. K. Narain and P. Sinha, *op. cit.*, pp. 67-70.
786. R. C. Gaur, *op. cit.*, p. 375.
787. A. K. Narain and P. Singh, *op. cit.*, pp. 67-70.
788. Cf. B. P. Sinha, *IAR* 1970-71, p. 96.

### THREE

## ECONOMIC CONDITIONS

The characteristic of the Indian economy during the Maurya-Sunga period, which lasted from C. 321 B.C. to the beginning of Christian era, essentially was based on agriculture, industry and commerce and taxation of various kinds for the population.<sup>1</sup> Kautilya also asserts that the economy of a country depends on agriculture, cattle breeding and trade.<sup>2</sup>

Although Indians generally lived frugally, they were fond of finery and ornament and this fastened trade and industry. The growth of art and industry was also facilitated by the State.<sup>3</sup> Literature and inscriptions contain frequent references of various arts, crafts and professions.

### A. Industry and Trade

The trade and industry had well developed organizations called 'Śreṇi'. Megasthenes refers to traders as a large body forming a social group.<sup>4</sup> At many ancient sites in northern India seals of various guilds and corporations of merchants have been found in great numbers. There is an inscription at Sanci about the guild of the ivory carvers of Vidiśa.<sup>5</sup>

There must also be such trade and industries dealing in horses, elephants, wood and metals to get requisite supply of chariots, sea-going vessels and weapons of war to facilitate the army including its soldiers, charioteers, cavalry and elephant riders. Supply of wood and metals necessitating clearing of forests and working of mines.<sup>6</sup> According to Arthaśāstra, a king shall exploit timber and elephant forests, offer facilities for cattle breeding and commerce, construct roads for traffic both land and water and set up market towns.<sup>7</sup>

State had probably its own factories of textiles, sugar, oil etc. The superintendent of commerce fixed both whole-sale and retail prices and took steps against smuggling, adulteration, use of false weights etc. There were several items of trade including jewellery, lapidaries, items of glass, fragrant substances, fine fabrics of cotton, wool and silk, garments, blankets, skins and beverages. With the growth of trade and commerce the process of urbanization was accelerated. It gave birth to various professions including art of painting, masonry and stone cutting, agriculture being main profession.<sup>8</sup> Other professions include cattle breeding, poultry and fishing. Potters, dyers, leather workers, confectioners, garland makers, rush workers, basket makers, weavers, blacksmiths and stone cutters were many other minor professions.<sup>9</sup>

Kautilya's Arthaśāstra says that the "Superintendent of accounts" had to enter in registers, the history of customs, professions and transactions of the corporations.<sup>10</sup> Three commissioners or three ministers enjoying the confidence of the guilds were appointed to receive their deposits which could be taken back in the time of distress.<sup>11</sup> Special concessions were made regarding the law suits between trade guilds.<sup>12</sup> Special privileges were given to a merchant belonging to a trade guild. The village guilds were protected by the regulation that no guilds of any kind other than local "cooperative guilds" shall find entrance into village.<sup>13</sup>

### Foreign Trade

As a result of the invasion of Alexander (C. 327 - 325 B.C.), India came into close and intimate contact with Hellenic world. Embassies were sent to the Mauryan court by the Greek rulers of Egypt and Syria, and Aśoka sent his missionaries to five Hellenic kingdoms. Greek writers refer to expert sailors in the Indus delta. During Aśoka's time Alexandria was a great trading centre and possessed a colony of Indian merchants, and Alexandrians in their turn created a settlement on the Malābār coast.<sup>14</sup> In the procession of Ptolemy Philadelphus (c. 285-246 B.C.) were to be seen Indian women, Indian hunting dogs, Indian cows and also Indian spices carried on camels and that the yacht of this Greek ruler of Egypt had a saloon lined with Indian stones. Ptolemies of Egypt and Roman emperors encouraged the development of direct sea-trade between India and western countries as far as African coast before the beginning of Christian era.<sup>15</sup>

India was famous for her export of silk, diamonds, precious stones, ginger, spices and ivory. India had excellent handicrafts and progress in chemistry, which produced special methods of dyeing clothes. Indigo came from India, as is evident from its name.<sup>16</sup>

### B. Agriculture

Agriculture was the main source of income. Most of Chandragupta's revenue came from taxes paid by agriculturists.<sup>17</sup> With the N.B.P.W. period, India enters a real stage of urbanisation because of a surplus production of grains which is attested by presence of granaries found during the course of excavation at Atranjikhera<sup>18</sup> in phase C of period (Plate : XCII) IV and from a document on a copper plate from Sohagaura.<sup>19</sup>

#### 1. LAND AND CROP

There were four types of lands:

- (1) Habitational land.
- (2) Agricultural land.
- (3) Grazing or pastoral land.
- (4) Forest.

Arthaśāstra<sup>20</sup> refers to two types of agricultural lands:

- (1) Royal farm,
- (2) Revenue paid land.

This distinction has been made very clear by using separate terms for incomes derived from two types of lands. The word *Sita* as income has been used from the first category of land while *Bhāga* stands for revenue from lands other than state farms. Again Arthaśāstra<sup>21</sup> uses term *sita* to include or types of crops in the charge of Superintendent of Agriculture. The description make out clearly that this officer got the royal farms cultivated either by state officers directly or tenants under his supervision.<sup>22</sup> Arthaśāstra<sup>23</sup> also states that lands could be confiscated from those who do not cultivate it and given to others. There were also provisions for *Brahmadeya* lands and lands were assigned to some state officers too. Fields prepared by state were allotted to the tax payer for the life time. Unprepared land prepared by individuals were not taken. There is also reference about concessions and remissions of taxes generally on opening of new settlement and any other occasion. Concessions were given

by state for specific reasons as written in Lumbini pillar inscription that Aśoka had reduced land revenue to 1/8 i.e. half the rate as Buddha was born there. Tenants were ejected if they neglected their plots but in such cases where lands were prepared by cultivators themselves, the hereditary possession was followed. There are also references that for some reason the confiscated land created resentment.<sup>24</sup> All suggest that private ownership of the land was the general practice in those days. Arthaśāstra also tells that those who are well versed in sacred books declared the king to be the lord of land as well as water. The house holders had the right of ownership over all other things except these two.<sup>25</sup> Even this statement implies that king was overall the lord of land not the actual holder otherwise how could he charge the taxes.

Paṇini has used term *Ūsar* or waste land and also different types of fields known after their products like fields of *Vrihi* (paddy), *Yava* (barley), *Til* (Sesame), *Masa* (beans), *Umā* (linseed), *bhāṅga* (hemp). It indicates that fields were divided according to the crops grown in them. Arthaśāstra,<sup>26</sup> following the same line refers lands on the degree of productivity and properties of soil for e.g. a region where the foam strikes the banks is suited for creeper fruits; where water overflows is suitable for long pepper, grapes and sugarcane; borders of moist beds of lakes are fit for green grasses, ridges are suitable for medicinal and perfume plants. The basic crop was rice but barley, wheat, millet and sugarcane were also grown.<sup>27</sup> The soil produced two crops in a year. Flax, millet, sesamum and rice were sown during summer rains while wheat, barley, pulse and other esculant fruits were sown in winter.<sup>28</sup>

Megasthenes records that the land was thoroughly surveyed. Jātaka stories also refer to local officers as "holders of the cord" (Surveyors - *Rajjūgahaka*) and the officers called in the Aśokan inscriptions "rajjuka" may have been the same.<sup>29</sup>

Patanjali<sup>30</sup> refers the barley crops of *Uśnara* and *Madra* and excellent rice of Magadha. In the Maurya period, fertility of soil was increased by fertilizers.<sup>31</sup> Megasthenes<sup>32</sup> also says that whoever suggested improvement in agriculture was awarded. The Arthaśāstra<sup>33</sup> refers to *Sitadhyakṣha* - director of agriculture, who most probably supervised the management of crown land. He was supposed to be expert in agriculture science. It is strange that Arthaśāstra<sup>34</sup> while giving details of agriculture makes no reference of manure. However, it describes the process of seed treatment at a length. Also there is a reference to the care of trees. Though cowbone and cowdung were used for the treatment of seeds. However, Kautīlya recommends manuring with fresh fish and milk of *Snuhi* plant.<sup>35</sup> We have account of manuring in subsequent period in *Harṣacharita*.

## 2. IRRIGATION

Irrigation was given a great importance. The Maurya king and their successors provided reservoirs and wells. In their inscriptions they have mentioned it quite frequently.<sup>36</sup>

Megasthenes refers in details to the fertility of land due to "the profusion of river streams" and the growth of various kinds of cereals and plants useful for food. The double rainfall enabled the people to gather two harvests annually.<sup>37</sup> A remarkable feat of Mauryan engineering in the field of irrigation was the construction of a reservoir called *Sudarśana* on the mountains *Raivataka* and *Urjayat* near Girnar or Junagarh, by artificially damming up some of their streams. This work was undertaken by Chandragupta and improved by Aśoka who equipped the lake "with well provided conduits, drains and means to guard against foul matters."<sup>38</sup>

Various excavations have brought to light large number of ring wells as well as *Kaccha*

wells. Some of them must have positively been used for irrigation purposes. Terracotta drain pipe as well as some kacchā drains outside the habitational area were found which attest proper facility of irrigation during the period. It is obvious that without proper irrigation facilities neither there would have been more than one crop nor surplus production.<sup>39</sup>

Evidence of using manure generally cowdung or animal drops come from literary evidence.<sup>40</sup>

There is a lot of controversy about irrigation tax during Maurya period mainly on the interpretation of the word *Udakhāg*. While Ghoshal, M. S. Gopāl and R. P. Kāngle maintain that the word stands for irrigational tax, Lallanji Gopāl ruled out such possibility and holds the view that the word simply indicated a share of water applied for irrigating the field. According to him there is no specific reference to irrigation tax prior to the early medieval tax.<sup>41</sup>

### 3. HARVESTING

To cut the rice peasants used wide bladed sickles so curved sometimes that they were U shaped.<sup>42</sup> Such sickles are reproduced in several stone carvings, a good example being at Sānci stūpa I, Southern Gateway.<sup>43</sup>

Apart from literary and sculptural evidences, the recent excavations have yielded large number of agricultural tools. From Atranjikherā<sup>44</sup> alone five different types of agricultural tools including sickles, spud, plough share, hoe and a digger have come to light during the course of excavation.

So far as spud is concerned it appears a proto-type of modern spade. Only one iron spud has been reported from only one site, i.e., Atranjikherā.<sup>45</sup> Its socket is intended to receive a straight vertical handle. It is heavily corroded. It has convex sided blade and chiselled edge. Its size is 12.5 x 7.5 cms.

The hoe was used for loosening the soil and scraping of weeds. It was found from Atranjikherā<sup>46</sup> and Cirand.<sup>47</sup> The hoes from both the places are made of iron. The one from Atranjikherā (Plate : LX-1) has a roughly triangular outline and with folded socket. The scraping edge is corroded, thick and heavy.

Sickles<sup>48</sup> have been found from Hastināpur, Piprahwā and Jakherā besides Atranjikherā. All the sickles from these sites are made of iron. From Atranjikherā alone five sickles more or less of the same type have been found. The only complete sickle is having crescent shaped curved blade with blunt cutting edge and rounded tip. Its roughly squarish pointed tang is irregular in cross-section. Its length is 19.4 cms, width 3.3 cms, thickness 1 cm and length of the tang is 6.5 cms.

Only one specimen of an iron ploughshare has been reported from Atranjikherā.<sup>49</sup> It was found fixed at the end of a wooden plough. It is an elongated share with tapering sides and corroded pointed end. It has a deep impression in the upper-half portion for fixing it to the wooden frame of the plough. It is rectangular in cross-section.

One digger has also been reported from Atranjikherā.<sup>50</sup> It is made of iron. It has a thinned-out blade, flaring gradually towards the rounded cutting edge. Its tang is partially broken.

### 4. PLANTS AND TREES

Megasthenes remarks the various plants and trees — the “reed” out of which boats could be made; the banyan with its spreading branches; the “vegetable wool” or cotton, the “honey bearing reed” or sugarcane, and the ubiquitous rice plant.<sup>51</sup>



He also mentions cereals, millets, pulses of different types, rice and many other plants useful for food.<sup>52</sup> Fruit and esculant roots which grow in marshy places are abundant.<sup>53</sup> Much fruit is produced by trees. The roots of plants, particularly of tall reeds are sweet.<sup>54</sup>

Apart from literary evidence we have now material evidence of plant remains from different excavations. The N.B.P.W. level of Atranjikerā,<sup>55</sup> has yielded at least three cereals - rice, barley and wheat. Moreover in addition to earlier known gram and khesari, a new pulse urad (*Phaseolus mungo* L.) has also been found. Presence of urad is important because it contains high percentage of calcium in addition to protein and can be grown more than once in a year. Their using deodār (*Cedrus deodara*), Himalayan Cyprus (*Cupressus torulosa*), Laurel (*Terminalia tomentosa*), Farash (*Tamarix articulata*) and male bamboo (*Dendrocalca strictus*) has been proved.<sup>56</sup> These trees might have been used in architectural constructions.

Among other plants were a large number of medicinal herbs and trees popular during the period. Aśoka had specially got them planted for the benefit of treatment both of men and animal. Though diseases were paid more by diet than by medicine, ointments and plasters were also used.<sup>57</sup>

Aristoboulos and other writers accept the existence of medicinal plants and roots both of salutary and noxious quality.<sup>58</sup>

In one of the inscriptions, Aśoka writes about medicinal plants not available here to be brought and planted in convenient places. He also planted trees along the roadsides not only for shade but also for fruits.

## 5. FOOD AND DRINKS

From the noted animal remains it appears that cereal diet was supplemented by meat. It also indicates that beef, venison, mutton and a certain amount of pork were consumed as food. The small percentage of bivalve and other water animals represent food refuge.<sup>59</sup>

## C. Other Professions

### 1. CATTLE BREEDING

Cattles were of great importance to crops in village economy. Besides those animals which were used for transport purposes for royal persons such as horses, elephants and bulls, there was a large number of animals used both for the benefit of agriculture and to supplement the diet. Like flora, period was quite rich in fauna.<sup>60</sup>

From Atranjikerā,<sup>61</sup> bone remains of a large number of animals, have been found. They include Bivalve, Lissemys, trionyx, chitra incica, horse, cow, buffalo, goat, sheep. Bārasingha, Nilgai, pig and dog. While from Rajghat<sup>62</sup> animal remains of cattles, goat, sheep, horse, ghariāl, river turtle, fowl and fresh water musel were found. From Authā<sup>63</sup> an elephant skeleton was found lying on the slopes of a mound. It was dated c. 2nd cent B.C.

### 2. TEXTILE INDUSTRY

Sanci and Bharhut art represents some women of rank wearing such a thin and transparent saree that their feminine forms are quite visible and sometimes they are mistaken to be nude.<sup>64</sup> This helps us in deducing that Indian spinners and weavers could produce semitransparent silks and muslins of extreme thinness which could have become possible with a high degree of refinement in textile industry of ancient times.<sup>65</sup>

Kautilya has also mentioned in chapter XXIII about the thread and weaving and made

up dresses.<sup>66</sup> Fine materials of cotton, wool, linen and silk were woven and the art of printing on cotton was also practised.<sup>67</sup>

Besides these literary and sculptural evidences a number of evidences have been found during the excavations of different sites. Terracotta spindles have been reported during the excavations from sites like Campā,<sup>68</sup> Sarāimohanā,<sup>69</sup> Prahādpur<sup>70</sup> and Candahā dih<sup>71</sup> and Hastināpur (Plate : LX-7). These were probably used for winding the thread when it was spun from cotton.

From Atranjikhērā<sup>72</sup> and Rājghat<sup>73</sup> printing blocks have been reported. While three specimens were reported from Atranjikhērā, only one was reported from Rājghat. These blocks are of various shapes, sizes and designs. Mostly geometrical designs (Plate: LX-2) are made on them.

From atleast two sites potsherds with cloth impressions have been reported. From Noh<sup>74</sup> a painted grey ware sherd having cloth impression was found. Also from Atranjikhērā<sup>75</sup> one fragment of a terracotta sherd with fabric impression was found but the material of which the impression was, could not be determined from the impression. According to Srivastava, it could be cotton, hamp or jute.

From some excavated sites some reels have also been found. Probably they were meant for winding thread for sewing or knitting purposes. From Atranjikhērā<sup>76</sup> and Hastināpur (Plate: LX-3, 4) terracotta reels have been reported. They had one side flat and other side with slight depression. All had smooth surface. From Śrāvastū,<sup>77</sup> fragment of a bone reel was found and from Hastināpur,<sup>78</sup> a copper reel was reported by Lal.

Bone and ivory awls probably meant for knitting purposes have been reported from a number of sites. Among the noteworthy sites are Hastināpur,<sup>79</sup> Allāhapur,<sup>80</sup> Hulaskhērā,<sup>81</sup> Jājmau,<sup>82</sup> Atranjikhērā<sup>83</sup> and Ujjain.<sup>84</sup> They all are circular in cross-section except a few with squarish cross-section. Their one end is always pointed for working and the other end may vary from squarish to oval flat and rounded (Plate : LX-6). From Ujjain lower portion of a scissor (Plate : LX-5) has been reported. It is made of iron. It proves that people might be using sewn garments and scissor would have been used for cutting them in different shapes.

### 3. MINES AND METALLURGY

According to Kautilya's Arthaśāstra a king shall carry on mining operations and manufactures<sup>85</sup> — which means the knowledge of the science dealing with copper and other minerals, experienced in the art of distillation and condensation of mercury and of testing gems.<sup>86</sup> Among the metals are copper, lead, tin, mercury, brass, bronze and sulphurate of arsenic besides gold and silver.<sup>87</sup> The collection of ocean mine included conch shells, diamonds, precious stones, pearls, corals and salt.<sup>88</sup>

The above account shows that in those times the metals would have been in frequent use and during above operation the crude metals would have been converted into useful shapes both for agricultural and war purposes. At least four sites have yielded crucibles which might have been used for heating the metals. The sites are Atranjikhērā,<sup>89</sup> (Plate: LXIII-122) Balirājgarh,<sup>90</sup> Champā<sup>91</sup> and Noh.<sup>92</sup> Crucibles from all three sites except for Balirājgarh are made of terracotta. The specimen from Balirājgarh is of iron. Crucibles from Atranjikhērā have cylindrical body and conical base. One of them bears traces of excessive heating probably in the process of melting the metal.

Megasthenes observes that the Indian soil was rich in all sorts of metals "for it contained much gold and silver, and copper and iron in no small quantities. And even tin and other

metals which are employed in making articles of use and ornament, as well as the implements and equipments of war."<sup>93</sup>

From Patna, two small cylinders of white stone with a slightly convex and highly polished ends were found at a depth of between 12-14 ft. Almost similar though small specimen was found at Bulandibagh 12 ft. below the surface. The hardness and density of mineral in these cylinders corresponds to quartz, but from its translucency and somewhat waxy lustre it may be chelcedony and thus resemble the still smaller hexagonal specimen found at Basarh and described by Bloch and Vredenburg.<sup>94</sup> One perfect and one broken specimen of the same smaller type but of less fine appearance, found in a trench in the ground of Bihār College of Engineering. According to R. D. Banerjee, these were used for weighing jewellery showing that quartz was used in ancient times for this purpose just as it is now with delicate laboratory balances.<sup>95</sup>

#### 4. STONE CARVING

The art of stone carving flourished during our period of study to a great extent. A number of stūpas had stone railings, finials etc. with all sorts of carvings on them, besides we have examples of Sudama and Lomash rishi caves, the living proofs of stone carving. Monolithic stone statues are among the finest example of stone carving, some of which have been worked in round.

In the working of stone on a large scale, India's skill is attested by the enormous monolithic columns of Mauryan times. As the evidence of Indian technology the columns are of great significance. Weighing as much as fifty tons and measuring some forty feet, they were carved from single blocks of stone, given a polish of wonderful hardness and lustre and often transported from many hundred of miles to their present positions, from Sañci in the south to the Nepalese tarāi in the north.<sup>96</sup>

One sculpture from Bharhut, now in National Museum, New Delhi,<sup>97</sup> depicts two carvers in action. Both of them are holding a bag like thing on their back, one foot resting on a nail struck in rock. In both the hands they are holding sharp instruments for carving.

For carving the stones, the carvers used to treat the stone under a long process. So far as the quarrying of the sand stone is concerned, it appears that it was done by sinking in the face of the stone and along the line of intended cleavage a series of small cup like depression, filling them with water and building a fire over them, the heat of which acting on the water causes the stone to split. Thus quarried sandstone seems to have been dressed with a pointed hammer or punch and afterwards with a claw tool, the mark of which are clearly visible on many of the rough dressed blocks.

Generally, flat and concave chisels were used for fine dressing and carving, though owing to the use of abrasives for the subsequent smoothing and polishing of the surface, the works of these tools could rarely be seen. The use of saw for cutting up blocks could not be ascertained due to lack of evidences, just as the case with drills.<sup>98</sup> For certain kinds of undercutting and finishing work, the file would be the most convenient tool, while for the final smoothing of the surface the abrasive used would have been the river sand. It appears that the sculptors of Sañci employed powdered emery, corundum or other hard stone mixed with lac for polishing the carvings of the sculptured gateways.<sup>99</sup> However, the process by which the pillars were provided with famous lustrous polish could not be discovered.<sup>100</sup> After polishing, the surface of the stone was reddened with a translucent stain which had the quality of not obscuring the texture of the stone as well as the fine details of the image. In later period, the

railings and the gate ways were covered with a coat of creamy white lime followed by a thin red wash.<sup>101</sup>

#### 5. HERDS MEN

The herdsmen, both shepherds and neatherds, formed a class by themselves, who lived neither in cities nor in villages, but on the hills. They scoured the country in pursuit of fowl and wild beasts, and paid royal taxes in cattle.<sup>102</sup>

#### 6. POTTERS

Mauryan art excelled in terracotta work and even china pottery was also made in India.<sup>103</sup> Pottery made on potter's wheel has been widely used from the earliest times in India. From each and every site of the period has yielded a large number of pottery items, some of them showing finest fabric, colours and paintings on them. The marks of potters wheel on them show that they were all wheel turned pots.

An inscription on a pavement slab near western gateway of the great stūpa at Sānci mentions the gift of a potter.<sup>104</sup> Thus showing the status of this class.

#### 7. JEWELLERS

The art of jewellers occupy an important place. This is evident not only from the representations in sculpture, terracotta and ivory from about the 2nd cent. B.C., but also from the actual gold and silver jewellery found at different sites, notably Taxilā and Pataliputra. Men and women wearing ornaments have been shown in the stone relief and terracottas showing their actual use and taste of the period.<sup>105</sup>

Excavations carried out at great depths in connection with certain sewage operations in the city of Patnā have brought to light the raw materials of every stage, tools used, finished and unfinished products etc.<sup>106</sup> Excavations have yielded important hoards of gold and silver jewellery of every sort as well as those of inferior metals.<sup>107</sup>

#### 8. COPPER SMITHS AND IRON SMITHS

Copper and iron smiths also held an important place amongst the artisans, and literary references to them are quite abundant from the R̥gveda downwards. In the Jātakas and Kautilya's Arthaśāstra frequent references are made to them. According to Arthaśāstra a large number of workmen should have been employed in making weapons of war and building ships for the Government, and they received wages from the State.<sup>108</sup> Moreover, every ancient Indian city site excavated so far reveals the considerable attention given to metallurgical works.<sup>109</sup>

#### 9. CARPENTERS

Numerous indigenous references to their craft from the R̥gveda downwards the description of Greek writers of the wooden palaces of Pataliputra and the remains of early Indian lithic monuments like gates and railings of stūpas, chaityafacades, halls etc. are but transition into stone from wooden originals are enough positive evidence of the high level and efficiency of the carpenter's art.<sup>110</sup>

#### 10. IVORY CARVERS

Ivory carving was another art which was highly cultivated and is comparable only with the art of goldsmith. The ivory carvers of the city of Vidiśā dedicated something of their fine skill to the relief of the Sānci gateways.<sup>111</sup>

## 11. BOWYERS

The bowyers or bow and arrow makers were a separate guild in ancient India during the time that bows and arrows were used for military purposes and there were many laws regulating their privileges and products.<sup>112</sup> The Arthaśāstra of Kautilya presents the picture of a society where bow and arrow, making of other arms and armour was well established and subjected to State control.<sup>113</sup>

## 12. FISHING

Fishing appears to be one of the occupations during that period because fish was a popular item of food. Terracotta fishing netsinkers (Plate : LXI-1, 2) have been found from Bateśwara,<sup>114</sup> Atranjikhērā<sup>115</sup> and Pātaliputra.<sup>116</sup> All vary in shape and size. Each having a prominent groove for tying it with the chord of fisherman's net.

Terracotta pieces of the shape of a pipe used in fishing nets have been reported from Oriup<sup>117</sup> alongwith some fishing hooks made of bone. At Sāncī, in the scene depicting the "Village Uruvilva, a fisherman(?) is shown with a bamboo pole and a fishing net. He is going towards a lotus pond presumably for catching fish.<sup>118</sup>

## 13. BUTCHERY

It appears that the people of our period of study were very fond of meat. Presence of bones of some animals in abundance near dwelling houses from most of the excavated sites makes it quite evident.

From Atranjikhērā,<sup>119</sup> an iron chopping knife (Plate : LXII-1) has been reported. It is a heavy and sturdy knife which might have been used for chopping the flesh and bones of animals and mincing meat.

## D. Artisan's Tools

### (i) Hammer and Anvil

From two sites namely Noh<sup>120</sup> and Oriup<sup>121</sup> hammers of stone have been reported and from Piprahwa<sup>122</sup> an iron hammer along with an anvil might have been used by blacksmith while stone hammers could have been the tools of stone cutters.

### (ii) Axe

Axes would have been used for cutting metals and wood. Different types of axes would have been used for different purposes. An iron axe was found from Atranjikhērā.<sup>123</sup> It was thick and heavy but it had no hole for the handle. Its purpose and place of use is not clear. From Pātaliputra<sup>124</sup> a miniature copper pickaxe was found. It is presumed that this axe would have been used by a goldsmith for cutting gold pieces for making ornaments. One toy-axe in terracotta was reported from Śrāvastī.<sup>125</sup> Its edge was sharp, top flattened and was triangular in section. In one scene from Sāncī,<sup>126</sup> a man is shown splitting wood with the help of an axe.

### (iii) Chisel

Chisel would have been used by carpenters, masons and stone cutters. Chisels have been found from Hastināpur<sup>127</sup> (Plate : LXI-3), Atranjikhērā,<sup>128</sup> Śrāvastī,<sup>129</sup> Piprahwa and Ganwāriā.<sup>130</sup> All are made of iron. From Atranjikhērā alone, fourteen iron chisels have been found. They fall in nine categories:

- (1) Sharply tapered with double slope and straight cutting edge; rectangular cross-section.
- (2) A flattened bar having almost rectangular section; Semicircular head; could also be used as marking nail.
- (3) Featureless and thickened head; tapered to a pointed working end; almost squarish cross-section, could also be used as a marking nail.
- (4) Almost rectangular head; tapering sides, double slope leading to a thin sharp cutting edge; rectangular cross-section.
- (5) Head partially damaged, double slope leading to a sharp cutting edge; square cross-section.
- (6) Rectangular head; pointed cutting edge; rectangular cross-section.
- (7) Head partially damaged; double slope leading to a sharp cutting edge, square cross-section.
- (8) Head almost oval with pointed working end, circular cross-section.
- (9) Flattened round head; slope leading to wide sharpened edge; circular cross-section.

One chisel from Śrāvastu (Plate : LXI-4) is with square section and having slightly splayed cutting edge.

#### (iv) Tongs

From Atranjikhērā,<sup>131</sup> a pair of iron tongs has been found. It is shorter in length than the one found in earlier period from the same site. It appears to be a tool of the copper smith or goldsmith, rather than a kitchen tool. It appears to be a long flat bar folded to have two equal arms (tongs) and a pronounced head; arms (one broken) slightly curved and tapering to pointed end (Plate : LXI-5). At one place in Sānci sculpture tongs have been represented with vedic ritualistic equipments. They have been shown in the scenes depicting "Miraculous victory over nāga" and "everyday life in hermitage."<sup>132</sup>

#### (v) Tube or Pipe

From Atranjikhērā<sup>133</sup> and Nāgdā<sup>134</sup> circular copper tubes have been found. The one from Atranjikhērā (Plate : LXI-6) is a grooved circular tube which is circular in section, while the one from Nāgdā is a ringed hollow object. Three more similar specimens of cylindrical pipes of iron have been reported from Atranjikhērā.<sup>135</sup> They are folded circular, with one end slightly narrower than the other. These were probably used to transmit air to the furnace.

An airfloos with splayed end has also been reported from Śrāvastu<sup>136</sup> (Plate : LXI-7). It was probably used for discharge of smoke-chimney.

#### (vi) Chopping Knife

From Atranjikhērā<sup>137</sup> alone, an iron chopping knife (Plate: LXII-1) has been reported. It is a heavy and sturdy knife which might have been used for chopping the flesh and bones of animals and mincing meat. It is roughly rectangular in outline, with straight back and blunt cutting edge. Shaft is particularly broken.

#### (vii) Chopper

A sickle like iron object probably a chopper (Plate : LXII-2) has been reported from Atranjikhērā.<sup>138</sup> It might have been used by carpenters for scraping or smoothening the bamboo

sticks and wooden pieces. It is slightly curved at the upper end with blunt cutting edge, tip is broken. It is triangular in section.

#### (viii) Scrapper

Scrapers have been found from Atranjikhhera<sup>139</sup> alone. They are three in number and all are made of iron (Plate : LXII-3). These might have been used for scraping and smoothing the surface of the bone points and like objects. They are of two types:

- (1) splayed out, truncated blunt cutting edge and shaft missing.
- (2) shaped like a miniature knife with concave back and round tip.

#### (ix) Borer

Borers made of iron and copper have been reported from some of the sites. Copper borers have been reported from Śrāvastī,<sup>140</sup> while iron borers have been reported from at least two sites, i.e. Atranjikhhera<sup>141</sup> and Prahādpur.<sup>142</sup> From Prahādpur fragment of an iron borer (?) was found with round section and one pointed end. From Atranjikhhera, eighteen iron borers were found. Their sections were either circular or squarish. These might have been used either for engraving or for drilling a hole in bone or wood.

#### (x) Crucible

Crucibles have been reported from sites like Atranjikhhera,<sup>143</sup> Balirājgadh,<sup>144</sup> Campā<sup>145</sup> and Noh.<sup>146</sup> Except for Balirājgadh, all other sites have yielded terracotta crucibles. Two terracotta crucibles from Atranjikhhera are similar in shape, only size varied according to their use. They had cylindrical bodies and conical bases. They also bear traces of excessive heating in the process of melting the metal.

#### (xi) Ring Fastener

From Atranjikhhera,<sup>147</sup> four iron ring fasteners have been reported. All are similar in shape, two broken and two intact. They are rounded, thickened band of flat iron, with outer diameter 3.5-6 cms and thickness .5-1 cm (Plate : LXIII-3).

Such ring fasteners are still in vogue among the carpenters to secure the wooden sockets of their tools. Those with bigger diameters could have been used as sockets.

#### (xii) Stylus and Pin

Bone and ivory styluses (Plate : LXIII - 4 to 6) have been reported from almost all the excavated sites. These could have been used for designing delicate designs on different types of objects. The sites from where these have been reported are Atranjikhhera,<sup>148</sup> Cirand,<sup>149</sup> Campā,<sup>150</sup> Jājmau,<sup>151</sup> Bateśwara,<sup>152</sup> Katragarh,<sup>153</sup> Mathura,<sup>154</sup> Nāgdā,<sup>155</sup> Oriup,<sup>156</sup> Sohagaura,<sup>157</sup> Sonapur,<sup>158</sup> Ujjain,<sup>159</sup> Piprahwa and Ganwāriā.<sup>160</sup> These styluses are with elliptical, circular or irregular circular cross section. They are pointed at one or both ends, sometimes the other end is crudely flattened. They have lustrous surface.<sup>161</sup>

Bone pins have also been found from many sites. They would have been used for similar purpose as styluses. These have been reported from sites like Cirand,<sup>162</sup> Candahadih,<sup>163</sup> Eran,<sup>164</sup> Katragah,<sup>165</sup> Pātaliputra<sup>166</sup> and Rājgir.<sup>167</sup>

#### (xiii) Socket

Bone and ivory sockets have been reported from Atranjikhhera<sup>168</sup> and Noh.<sup>169</sup> They are lustrous with elliptical cross-section and conical in shape. These could have been the caps for

fine tipped styluses. One fragment of an iron socket was found from Śrāvastī<sup>170</sup> (Plate: LXIII-7). Probably it belonged to a spade or similar instrument. The iron and copper sockets (Plate: LXIV-1, 2, 3) were reported from Atranjikherā.<sup>171</sup> The two circular, inverted edges of the copper were at right angles. Probably it might have been used for joining two objects for e.g. two poles.

### E. Furnaces and Factory Sites

From three sites indications of factories have been found. From Katragarh<sup>172</sup> a large number of bonepins of various sizes have been found in great quantities indicating a factory site. In Ujjain,<sup>173</sup> a tiled roofed mud house probably served as a workshop for the manufacture of beads of agate and arrowheads and knitting needles of bones. Large quantities of unfinished agate beads of various shapes and sizes, chunk of bone serving as raw material and several finished pieces of bone arrow heads and knitting needles were found inside it. Alongwith these few objects of iron were also found. These were probably tools. From Atranjikherā<sup>174</sup> a room with a furnace and a row of firepits was found. These firepits were separated from one another by a mud brick placed on each side of each pit. These together give the impression of a workshop. Besides these factory sites some furnaces were also found which probably served for different types of foundaries and potteries. From Besnagar,<sup>175</sup> a small baked brick structure probably a furnace was found. Plenty of charred wheat, charcoal, burnt copper objects and pottery were found here with it. It belonged to Maurya period.

From Mathurā<sup>176</sup> three furnaces were found along with a workshop of a copper smith. From Ujjain<sup>177</sup> and Tumain<sup>178</sup> one each furnace of ironsmith were found. These belonged to Śunga period.

### F. Shops and Markets

In one of the Bharhut<sup>179</sup> reliefs a market has been represented. It has three blocks. A shopkeeper is pouring something from a vessel into a tray held by a purchaser. On the right stands a carrier, carrying two pots in a hanger. At another place, a shop has been represented. On the right stand two merchants with two bundles and a heap of plantains lying on the ground. Two more persons wearing caps are on the left.

### G. Weights and Measures

To weigh their merchandise tradesmen used scales and weights from a very early time.

The weights seem to have been made of stone, bone and glass. Excavations of a number of sites have yielded different types of weights. From Atranjikherā<sup>180</sup> three glass weights (Plate : LXIV-4, 5, 6) have been reported. They are disc shaped in black, green and white glass.

Stone weights have been reported from Cirand,<sup>181</sup> Campā,<sup>182</sup> Eran,<sup>183</sup> Vaiśālī,<sup>184</sup> Piprahwa and Ganwāriā.<sup>185</sup> They are of varying denominations. Terracotta weights have been reported from Jājmau.<sup>186</sup> Weights of semiprecious stones have been reported from Eran<sup>187</sup> and Chandahadih.<sup>188</sup> From Eran one in green jasper and two in red have been found while from Chandahadih weights of semiprecious stones like carnelian, jasper, agate and rock crystal etc. were found. From Sonapur<sup>189</sup> weights of stealite have been reported while from Atranjikherā<sup>190</sup> one solid lenticular shaped copper object (Plate : LXIV-7) has been found which is perhaps a weight.



## H. Transport and Communications

The travel in Ancient times depended on the geographical situations of the trade routes and the safety measures taken against the wild animals.<sup>191</sup>

Though the process of urbanization was responsible for the growth of cities and towns mainly as capital towns both of the central as well as of state governments and trade centres; still villages dominated in all spheres of life, as usual. Majority of the people lived in the villages and most part of the country was covered with dense forests through which the roads passed. Travellers had to carry their food or provisions with them, because there were no facilities for food on these routes. Moreover these were infested with wild animals and robbers. So it was very dangerous to travel alone on these roads, and therefore, people travelled in groups and traders in well organised caravan for security.<sup>192</sup> In ancient India there was a certain kind of co-operation among traders. It was necessary because of insecure roads and long distances to travel. A jātaka story refers to a village of 500 robbers with an elder as their head.<sup>193</sup> Such organisation of robbers was met by the counter-organisation of traders to which, again, reference is made in a number of jātaka stories.<sup>194</sup>

Kautilya's Arthaśāstra throws some light on the land and sea routes which are not mentioned elsewhere.<sup>195</sup> According to him good roads were necessary for external and internal trade. Government officers had to regulate movement on these roads. He describes various types of routes like the chariot routes (*rathya*), routes leading to ports (*dronamukha*), roads leading to the capitals of the provinces (*sthantya*), roads leading to the neighbouring states (*rastra*) and the roads leading to the grazing grounds (*Vivitapatha*), military camps (*Sayantya*), cemetery, villages, dykes and forests.<sup>196</sup> These roads varied in width as shown in the chart.

The Arthaśāstra also informs us that forts were provided with many roads and alleys and they were given priority over the construction of the forts. They were built from North to South and East to West after proper planning. Arthaśāstra also records the relative importance of land and sea-routes.<sup>197</sup> He says that the bullock-cart routes were better because they were used for carrying heavy loads. Roads which could be easily used by camels and donkeys throughout the year were considered better in construction.

Megasthenes too refers to about these roads in his account. He considered Indians as expert road makers. Mile stones were fixed at regular intervals of two miles to ascertain the distance and the direction of the branch routes.<sup>198</sup> It would be worthwhile to record that Aśokan pillars and rock edicts were placed on important cross roads or on major trade-routes or near the centres of administration. Even important places related with the life of the Buddha were mostly on the trade routes of Uttarāpath.<sup>199</sup> Proper arrangements were made by the State on the roads for the comfort of the travellers. Aśokan inscription specially informs us that the king had dug wells and planted trees on the roads for the comfort of the travellers.<sup>200</sup> The contemporary sculptures also provide some details about the modes of transport in those days. However, unfortunately they do not or rarely provide any idea about the caravan or shipping. They provide ample evidence about decorated chariots, caparisoned horses and elephants.<sup>201</sup> A brief account as available from literary and art sources about the modes of road transport may be reviewed here.

### 1. LAND TRANSPORT

#### (i) Bullock Carts

As we are aware, the bullock-cart was extensively used for travelling in ancient India

and its representation in Indian art is available at places. Its specimen depicted at Bharhut<sup>202</sup> hardly differs from those of our modern prototype. At one place in Bharhut Sculptures<sup>203</sup>, a two wheeled square cushioned cart with the straight back seat made of wood is depicted. The unyoked bullocks are shown resting on the ground. The cart driver or the merchant is seated behind on the left side. A bullock cart with unyoked bulls can also be seen in a Bharhut railing pillar medallion (Plate : LXXIII-B), depicting the purchase of jatavana.

As far as Sānci sculpture is concerned, there is only one representation of the bullock cart on Southern gateway.<sup>204</sup> It depicts a pair of bullocks yoked to a two wheeled cart. The cart is shaded with a vaulted roof supported on four poles. The tails of bullocks are tied on one side. Representation of carts in terracotta was a very popular subject among artists of the period.

A large number of terracotta toycarts have been reported from a large number of sites during excavations. These sites are Balirājgadh,<sup>205</sup> Cirand,<sup>206</sup> Campā,<sup>207</sup> Candraketugadh,<sup>208</sup> Katragarh,<sup>209</sup> Bhitā,<sup>210</sup> Mathurā,<sup>211</sup> Nagdā,<sup>212</sup> Noh,<sup>213</sup> Patnā,<sup>214</sup> Atranjikherā,<sup>215</sup> and Kauśāmbi.<sup>216</sup>

From Bhitā,<sup>217</sup> a mutilated plaque has been found. It shows four horses (?) facing to the front. Another specimen<sup>218</sup> preserved in the Boston Museum of fine arts represents in relief the front part of a toycart drawn by a pair of bulls. From Atranjikherā,<sup>219</sup> two specimens of toy carts were found. One of them has rectangular base (13.5 x 6.5 cms) and its one extent raised side is decorated with impressed floral design and railing motif. A transverse hole with projected axil for holding wheels is noteworthy. It has bright red slip (Plate : LXXVIII-B). The other toycart (8 x 8.2 x 8.3 cms) has a mould impression of two yoked bulls drawing the cart. Similar to Boston and Atranjikherā, a specimen depicting toycart with two bulls from Kauśāmbi<sup>220</sup> is exhibited in Lucknow Museum. Other examples from Kauśāmbi, exhibited in Allahabad Museum show interesting features. In one case<sup>221</sup> which is a moulded front wall of a terracotta toycart, on the front three figures are standing. Out of them the middle one is a woman. The hands of all the three figures are resting on a semicircular ornamented and padded arch. Below the arch are seen two bull heads in relief. Another<sup>222</sup> is the cast of a front wall of a toycart showing four bulls standing straight in front. All are wearing garlands. Similar specimens are there in National Museum, New Delhi.<sup>223</sup> All these belong to Śunga period. From Mathurā<sup>224</sup> also a frontal view of a bullock cart was found. At Patnā<sup>225</sup> animals mounted on discs serving as wheels and toys were found. An interesting specimen came from Nagdā.<sup>226</sup> Here a copper leopard figurine on wheels was found. At Campā,<sup>227</sup> toycarts of tortoise shell were found. They were decorated with circlet designs.

A large number of wheels of various diameters and designs, some made of moulds, have been found from a large number of sites such as Ahichchhatrā,<sup>228</sup> Ayodhya,<sup>229</sup> Atranjikherā,<sup>230</sup> Bateśwara,<sup>231</sup> Balirājgadh,<sup>232</sup> Eran,<sup>233</sup> Hulas,<sup>234</sup> Katragarh,<sup>235</sup> Mathurā,<sup>236</sup> Masaon,<sup>237</sup> Moradhwiāj,<sup>238</sup> Noh,<sup>239</sup> Ganwariā and Piprahwā,<sup>240</sup> Pariar,<sup>241</sup> Prānādpur,<sup>242</sup> Kauśāmbi,<sup>243</sup> Śrāvastī,<sup>244</sup> and Vaiśālī.<sup>245</sup>

From Atranjikherā<sup>246</sup> alone, from N.B.P.W. level, 40 specimens of terracotta wheels were found. To our period of study belong 28 specimens. Some of them have prominent hubs projecting on both sides. At least three specimens have impressed floral motifs around a prominent hub and have impressed spokes and circles.

### (ii) Chariots

There are only two representations of horse chariots at Bharhut.<sup>247</sup> One of them is the royal chariot of Rājā Prasenjit and the other one is also attested to be a royal chariot. The

chariot of Prasenjit is a two wheeled vehicle with a heavily ornamented front and lower sides. Its size is enough to carry four persons. The Raja is standing in the mid-front, the driver on his left, a cauri bearer on his right side and an umbrella bearer behind him. The chariot is drawn by four horses with plumes on their heads. Their long manes are plated and their long tails as usual are tied up on one side.<sup>248</sup> The other chariot is shown in the Mugapakha Jataka almost similar as described above and yoked with four horses<sup>249</sup> (Plate : LXXIII-A). As accorded by Megasthenes,<sup>250</sup> the wheels of the vehicles were made of fine wood cut from the trees. This statement is also corroborated by a unique find of a chariot wheel of the Maurya period found from Bulandibagh and exhibited in Patna Museum (Plate: LXV-B). From several representations of the chariot in Sānet sculpture, it can be concluded that its open body had two wheels with many spokes and yoked with two horses except in one scene of Viśvantara jātaka where four horses are yoked in chariot.<sup>251</sup> Chariot representations on terracotta have been a common practice. They have been represented driven by two or four animals — horses or bullocks, generally by the later. A very good example of a chariot drawn by horses is found at Bodhgaya (Plate : XCVI-B) where God Sun is shown riding on a chariot driven by four horses. A chariot from Kauśāmbi looks like a boat while one from Mathurā Museum has a small roofed chariot of being a prototype of *ekka*. One specimen from Patna seems to have enough place to provide space for more than one person on it. Two pairs of bullocks are shown yoked on a terracotta chariot from Ahichchhatra (Plate : LXXIX-A). Chariots with two bullocks have been reported both from Kauśāmbi and Atranjikhēra,<sup>252</sup> both are almost similar.

The chariots were of various types during Śunga period. Some depict carrying a picnic party as found from Kauśāmbi (Plate : LVII-B) and in one case a person has been shown lying comfortably on a chariot (Plate : LVII-A). Both are housed in Mathurā Museum. It appears that chariots were beautifully decorated, carved and cushioned. The two specimens - one from Mathurā and other from Atranjikhēra<sup>253</sup> amply prove it by the depiction of the decorated sides of chariot, the former is decorated on inner side (Plate : LVII-A) and later on outer sides (Plate: LXXVIII-B). Not only that they were decorated, they also differed in their style and craftsmanship. A specimen from Patna depicts a stylistic ram (Plate : LXXVIII-A) while one from Kauśāmbi depicts a fish tailed crocodile (Plate : LXXIX-B) looking as tricycle. Reference may also be made of a specimen from Lucknow showing upper portion like a female and lower portion like a bird.

At Kauśāmbi, during Śunga period a distinct group consists of chariots with swift footed bulls whose body is beautiful with pleasing floral designs.<sup>254</sup> An exhibit from Kauśāmbi, now in Allahabad Museum<sup>255</sup> shows the inside of a toychariot. On both the raised sides of the chariot human figures are shown seated. Some edibles are kept in the middle, one man is playing on vina and a woman is dancing (Plate : LVII-B). Another example<sup>256</sup> is a round plaque belonging to c. 2nd cent. B.C. It depicts a chariot drawn by a pair of stags. Chariots drawn by stags are rare in Indian art. The only exception is a plaque in Mathurā Museum. Examples of toy chariots in terracotta art drawn by horses or bulls can be seen in Plates : LXV-A; LXVI-A, B.

One toy chariot from Ahichchhatra<sup>257</sup> is placed in Allahabad Museum. It has wall on three sides. The side wall has a railing with four upright pillars and two cross-bars with semicircular panels containing lotus flowers and pericarps. Below there is an ornamental border. The left wall has decorative borders on top and bottom. Between them there is a railing and a semicircular panel decorated with lotus rosettes. Railing pillars have lotus

medallions comparable to Bharhut railing. There is an opening on the back wall and a transverse hole on the body. Similar terracotta chariot has also been found at Atranjikhera.<sup>258</sup>

### (iii) Tricycle

Some wheeled toys identified as tricycle have also been found. A male bust from Kauśāmbī forming the forepart of a tricycle belongs to c. 1st cent B.C.<sup>259</sup> There are some more specimens of this type in Allahabad Museum. Both of his hands are folded in front. Similar busts have been found at Bhūtā and Mathurā. Other example is a Makarashaped tricycle<sup>260</sup> from Kauśāmbī. It is decorated and belongs to Śunga period. Others are in the shape of a fish<sup>261</sup> or a ram<sup>262</sup> and sometimes females<sup>263</sup> also.

Some of the tricycle have composite figures on them. Two examples from Kauśāmbī have this type of figures. One in Allahabad Museum<sup>264</sup> has half man and half bird body. The front portion is of a man with folded hands. The hair is in form of a coil held in place by a beaded string. It has wings on its shoulders. The lower portion is formed like feathers of a peacock. The other one<sup>265</sup> has upper portion of a female and her hair is arranged in one central bun. It has decorations in form of leaves. The back portion is showing feathers of a bird.

In one case, a tricycle from Kauśāmbī<sup>266</sup> shows a man riding on the back of a ram. The animal has big eyes and an ornamental band on the forehead. The rider wears a high head dress with part of the hair hanging on each side of his face. This type of terracotta tricycle have also been reported from Mathurā and Candraketugadh. A dull red portion of a terracotta tricycle from Candraketugadh<sup>267</sup> shows a male sitting on an animal (?) probably horse with highly decorated body. It belongs to c 2nd cent B.C.

### (iv) Horses

From bas-reliefs of Sāncī, Bharhut and Mathurā, it appears that very often travellers used highly caparisoned horses.<sup>268</sup> Though there is no specific literary evidence to know whether horses, except in the case of army, were used for long journeys, but there can be hardly any doubt about their use for short distances. The people of high status used highly caparisoned horses.<sup>269</sup> Horses have been frequently represented on Sāncī reliefs. They have been variously employed for drawing chariot, forming cavalry in a military procession and carrying passengers on their back.

High breed horses in various postures have been depicted at Bharhut (Plates : XX-A; CXIV-B) such as in the scene of Siddhartha's renunciation in which the horses are led by the Gods and angles. At another place one horse is shown skygoing and the other one appears fit to be yoked to royal chariots.<sup>270</sup>

### (v) Elephants

Elephant as a vehicle was very common in ancient India. Elephants formed part of the army but they always accompanied kings on long marches. As far as we know elephants were not used for transport in long journeys.<sup>271</sup> On the panels of Sāncī in the scenes of the war of the relics the elephant carries royal warriors on its back. In royal processions too, it carries either a king, his viceroy or a prince. In one scene Aśoka and his queen are shown on elephant back visiting bodhi tree, a symbol of the Buddha for worship. Other scenes depicting elephant riding are scenes of Viśvaṅtara jataka, water sports as well as on capitals and false capitals. Indra mounted on his elephant appears on a panel of Soutehrṅ Gateway. At Bharhut<sup>272</sup> Eravat stands as prototype of the royal elephants. Another example of elephant used for riding at Bharhut can be seen in Plate CXIV-B.

A railing crossbar from Mathura, now housed in National Museum, New Delhi, has depicted a well chiselled caparisoned elephant with minute details. The caparison has a geometrical design on it and tied on its back by a rope. Just near its neck are hanging the bells, a general tradition still found. The elephant is shown carrying its driver with goad<sup>273</sup> and another rider at the back.<sup>274</sup>

A very interesting scene of a caravan type procession is depicted on a torana slab found from *Kankali Tila*, Mathura, belonging to 1st cent. B.C. (Plate: LXVI-B) and at present housed in State Museum, Lucknow. In this panel are shown a roofed chariot driven by two horses probably carrying royal ladies (?). It is led by horsemen as well as attendants on foot. Chariot is also guarded by horse rider and an elephant rider with a driver on the back side of it. The horses appear to be bridled. Noteworthy aspect is that the tails of both the animals are tied, while the tails of unyoked animals are free.

#### (vi) Camel

The great stupa at Sanci<sup>275</sup> provides two representations of camel ride. Each of the two sets consists of seated camels with one rider sitting in between its two humps. One of the rider is a woman. In another representation the camel is in moving posture with a rider on its back.

#### (vii) Bulls

Besides being used in carts, bulls were also used for riding and carrying goods. Both Sanci<sup>276</sup> and Bharhut<sup>277</sup> sculptures depict bulls being used for carrying goods. The depictions on false capitals of Southern, Northern and Eastern Gateways of Sanci stupa show the use of this animal for riding. Among terracottas from Kauśambi<sup>278</sup> and other places similar representations have been found.

### 2. SEA TRANSPORT

In the days of Aśoka, the Mauryan empire had connections with the distant Hellenistic monarchies of Syria, Egypt, Cyrene, Macedonia and Epirus and became the commercial and spiritual centre, mainly by the efforts of merchants and missionaries. This could have happened because of efficient shipping and system of communications.<sup>279</sup> Moreover, Alexander's passage of the Indus was effected by means of boats<sup>280</sup> supplied by native craftsmen. A flotilla of boats was also used in bridging the difficult river of the Hypasdes.<sup>281</sup> Several Jataka stories also refer to the organisation of seagoing merchants. The Valāhassa Jataka<sup>282</sup> tells us the story of five hundred merchants who chartered a vessel for trading in ceylon. The Pandāra Jataka<sup>283</sup> also tells about the chartering of a vessel by "five hundred trading folks."

The industry was in the hands of the state. Megasthenes<sup>284</sup> informs about the existence of a class of ship builders among the artisans. According to him, they were salaried public servants and were not permitted to work for any private person, though these ships were let out on hire. According to Arthaśāstra,<sup>285</sup> the state fully realised the importance of sea routes too and to manage them it appointed the superintendent of shipping who was incharge of ocean going ships and boats sailing on rivers and lakes. The admiral of the fleet let out ships on hire for the transport both of passengers and merchandise. The sailors employed in the navigation of the rivers were paid by the State.<sup>286</sup> The travellers had to pay the taxes to the State before sailing.

#### (i) BOATS

The bas-reliefs of Sanci have a few representations of boats. At one place on Eastern

Gateway of Stūpa I,<sup>287</sup> it is a river boat made of rough timber planks joined together with hemp or string. It is carrying three men in ascetic priestly costume. The two flanking occupants are apparently sailing the boat since each of them is holding an oar. At another place<sup>288</sup> the boat is typically shaped like a composite animal, half of its body being that of a fish and the half that of a winged griffin. There is a shade in the centre. The roof is in the form of a small canopy supported by four corner pillars, each with an outer bracket, joining it to the roof. The ceiling is adorned with hanging garlands. Bharhut also provides two examples of boat almost similar to those depicted at Sāncī. The planks are notched and fastened together. The oars are shaped like large spoons, each having a long bamboo handle, with a flat piece of wood at the end to hold the water.<sup>289</sup> In another depiction of a boat at Bharhut (Plate : LXVII-B) three men are shown aboard and a monster is trying to swallow it.

Another boat slightly different in shape from that of Bharhut is depicted in the upper medallion of a pillar from Bodhgaya.<sup>290</sup> It is carrying three men. Two are in standing posture and the third one is reclining and half sitting. The boat has a border and the top end is bird shaped (Plate : LXVII-A).

## I. Coinage System

Numismatic evidences are recognised as a great source of ancient history, because it indicates the material from which coins are made and the sources of such materials. It also reveals its forms, weight, design and technique of manufacture. From it, the organisation and control of their production and circulation by the State or by some other authority, including the size and frequency of issues and the monetary and the metallic values also become known.<sup>291</sup>

As such coins throw enough light on the contemporary political, administrative, social, economic, religious and cultural life.<sup>292</sup>

As already stated coins bear testimony of their period. As we know in our period of study there was republican form of government side by side with the monarchial system. The collective sovereignty of republics was termed as *Gaṇa*, *Nigama* and *Janapada*.<sup>293</sup> (Plate : LXIX-1). These forms of governments have been testified by the coins of our period such as *Yaudheyas*, *Mālavagaṇa* and the *Arjunayana* and others. The coins of the *Yaudheyas*, *Mālavas* etc. undoubtedly indicate that sovereignty and prerogative to issue coins perhaps were vested not in one person but in many.<sup>294</sup>

Moreover, there are *nigama* coins reported from Taxilā and Kauśāmbī. The *nigama* coins from Taxilā were found from Bhīr mound, Sirkap and Sirsukh. The coins from Taxilā are surface finds. This copper coinage forms a homogenous group, distinct from other groups of copper coins of ancient India, such as those of Ujjain. These are placed in the later part of the third century B.C. The early indigenous coins of Taxilā are classified in two groups by Allan viz. inscribed and uninscribed.<sup>295</sup> The inscribed coinage of Taxilā consists of those bearing legends of *nigama*. They all bear Mauryan symbols like Cakra, steel yard and elephant moving to the railed tree. The coins of *nigama* series are often taken to be issued by guilds of merchants.<sup>296</sup>

The earliest coinage system seems to have been introduced during Mauryan dynasty, though small objects resembling coins have been discovered at Mohanjodaro. The coins of Mauryan dynasty consist of small ingots of silver, curved and punched.<sup>297</sup> Moreover, the most remarkable feature of this period is the introduction of a regular system of coinage in business transactions, which attests the process of urbanization. The shape of these coins is approximately

square, oblong. The silver coins as a rule having been cut from a flat sheet of metal and the copper coins from a bar.<sup>298</sup> These primitive coins are a little more than weights of metal, on which was stamped from time to time the symbol of the authority responsible for their correctness and purity. Because of this method of marking they have usually been called punch marked coins.<sup>299</sup>

The various symbols on the coins have been interpreted in many ways. Kośāmbi suggests that symbol is associated with a dynasty and the symbol with human figures and without *Cakra* indicate coins of the tribal oligarchies. Like the Sun-symbol is the symbol of sovereignty. The crescent on arches is a Mauryan symbol. The symbol of three ovals and a tangent is an Aśokan symbol. The peacock on arches is associated with the Mauryas.<sup>300</sup> According to Foucher, the elephant and the bull on coins explain the relations of the Mauryas with the Buddhism. The tree in railing also represents the Sambodhi and the arches undoubtedly signify the Buddhistic conception of *stūpa*.<sup>301</sup>

Thus it appears that these coins were extensively used as a medium of exchange which is supported by the evidence of the Arthaśāstra. It mentions two main types of coins, viz. *Paṇa* (silver coin) with its denominations of 1, 1/2, 1/4 and 1/8. The other is *māsaka* (copper coin) with the same denominations and the quarter piece is known as *Kakani*. Alongwith these, gold coins are also stated but they are rarely used. The punch marked coins were minly available in silver and copper but they are rare in gold.<sup>302</sup>

The coins of our period of study are basically of two types : (i) Punchmarked coins and (ii) cast coins.

### 1. PUNCH MARKED COINS

Although Punch marked coins are rude and ugly, bear no legends and as a rule, are not assignable to any particular state or locality. As far as their date is concerned, scholars differ in opinion. Gupta places them as early as 800 B.C.<sup>303</sup> but the excavations do not support his contention. According to excavations they appear around 500 B.C.<sup>304</sup> They are found both in silver and copper. They are of no definite shape. It was round, square, oblong or irregular. On these pieces symbols of authority were stamped (punched) hence called punch-marked coins.<sup>305</sup> The obverse side had more symbols than the reverse side.<sup>306</sup> The symbols on the obverse side are normally five. However, there are such coins also which have five signs on both sides but they were not popular in the Maurya period. Though it is claimed that there are five hundred and fifty varieties, of symbols, the popular ones are sun, six armed mark, hill symbol, crescent on hill, a tree within railing, an animal (predominantly bull), taurine, fishes, stupa with arches and sometimes bow and arrow.<sup>307</sup> Besides bull, other animals were elephant, snake, rhinoceros and deer<sup>308</sup> (Plate : LXVIII).

According to Kośāmbi Aśoka had several dozen different types of coins because of many mints at work during his reign. The Mauryan silver coins after Chandragupta show a sudden increase in copper content with less accurate minted weights. It indicates a tremendous increase in trade and heavy profits for traders who would have bartered with tribesmen.<sup>309</sup> A number of punch-marked coins have been found during the course of excavations at Atranjikerā,<sup>310</sup> Ayodhya,<sup>311</sup> Besnagar,<sup>312</sup> Bairat,<sup>313</sup> Bhita,<sup>314</sup> Bateśwara,<sup>315</sup> Balirājgadh,<sup>316</sup> Cirand,<sup>317</sup> Campa,<sup>318</sup> Dangwada,<sup>319</sup> Eran,<sup>320</sup> Hulaskhedā,<sup>321</sup> Kauśāmbi,<sup>322</sup> Mathura,<sup>323</sup> Prahādpur,<sup>324</sup> Sugh,<sup>325</sup> Śrāvastu,<sup>326</sup> Sonapur,<sup>327</sup> Ruper,<sup>328</sup> Śringverpur,<sup>329</sup> Sohagaura,<sup>330</sup> Tripurī,<sup>331</sup> Vaiśālī,<sup>332</sup> Masaon,<sup>333</sup> Malhar,<sup>334</sup> Piprahwa,<sup>335</sup> Pataliputra,<sup>336</sup> Hastināpur,<sup>337</sup> and Taxilā<sup>338</sup> are among them.

Silver punch-marked coins were found at Atranjikhera,<sup>339</sup> Kauśāmbī,<sup>340</sup> Prahāḍpur,<sup>341</sup> Sugh,<sup>342</sup> Sonapur,<sup>343</sup> Piprahwa,<sup>344</sup> Hastināpur,<sup>345</sup> and Taxila.<sup>346</sup> From Kauśāmbī four punch-marked coins were found. They were round, bearing symbols on both sides. Copper coins were found from almost all sites. Seven copper coins from Kauśāmbī bore symbols on both sides while those from Mathurā<sup>347</sup> and Malhar<sup>348</sup> were squaish, those from Prahāḍpur,<sup>349</sup> Śrāvastī<sup>350</sup> and Vaiśālī<sup>351</sup> were rectangular. However, coins from Prahāḍpur had symbols on the obverse side only.

## 2. CAST COINS

Cast coins have also been found from several sites. Cast coins were of two types — (a) uninscribed and (b) inscribed. These were mostly of copper. It is noteworthy that though rarely, metals like lead were also used for making coins.

(a) The uninscribed cast coins may be placed in universal category being round and having symbols like 'elephant' and 'three peaked hill with crescent'. They were found all over northern and some parts of central India.<sup>352</sup> These are generally simple in design and the technique of casting coins was peculiar to ancient India.<sup>353</sup> Uninscribed cast copper coins from Atranjikhera<sup>354</sup> had symbols like elephant, standard, Swastika, tourine, tree in railing, hollow cross and crescent on hill. Unlike other sites, from Kauśāmbī,<sup>355</sup> four types of uninscribed copper coins were found. Eight were square, some circular and others irregular round with symbols on both sides. There were seventeen tiny coins which were irregular rectangular in shape with symbols on both sides. From Mathurā,<sup>356</sup> a rectangular cast copper coin was found which was rectangular in shape. It was uninscribed with symbols on both sides. Rajgir<sup>357</sup> and Vaiśālī<sup>358</sup> produced rectangular cast copper coins which were uninscribed.

(b) Early inscribed coins were manufactured by casting and die-striking process.

Though a large number of coins belonging to the period of our study have been found. In majority of the cases the names of their issuers are not known. However, the names of various rulers who issued these coins have been found. A list of such rulers is given below<sup>359</sup> :

Name of King	Reign Period	Years
<b>Maurya</b>		
1. Chandragupta Maurya	c. 325-301 B.C.	24
2. Bindūsara	c. 301-276 B.C.	25
3. Aśoka	c. 276-240 B.C.	36
4. Daśartha	c. 240-232 B.C.	8
5. Samprati	c. 232-223 B.C.	9
6. Śaliśuka	c. 223-210 B.C.	13
7. Deva Dharman	c. 210-203 B.C.	7
8. Śata Dharmana	c. 203-195 B.C.	8
9. Bṛhaspati Mitra	c. 195-188 B.C.	7
<b>Śunga</b>		
1. Puṣyamitra	c. 188-152 B.C.	36
2. Agnimitra	c. 152-144 B.C.	8
3. (Su) Jyeśtha	c. 144-137 B.C.	7
4. Vasumitra (Sumitra)	c. 137-127 B.C.	10
5. Odraka	c. 127-120 B.C.	7
6. Mulindaka	c. 120-117 B.C.	3



7. Ghōṣa	c. 117-114 B.C.	3
8. Vajamitra	c. 114-107 B.C.	7
9. Bhāgavata	c. 107-75 B.C.	32
10. Devabhūmi	c. 75 B.C.	—

## (i) City Coins

Besides, the six towns or political communities of trigarta are well known. The coins belonged to their federation. The line on the top showing three curves probably represents tri (garta). The elephant on their oldest issue may refer to the Mauryan imperial symbol indicating a sub-ordinate position.<sup>360</sup> Allan suggests the names like Ratimasa, Dojaka, Vatasvaka to be names of districts whose local authorities issued coins in the country of Taxilā with some system of coordination from a central authority.<sup>361</sup>

The Vatsvaka coin belonged to the early Mauryas. In a series of coins of Pātaliputra, the moon-on-hill symbol is placed over a standard, and on the vata-aśvaka coins we find a long robed figure in trousers standing with folded hands before the moon-on-hill. The homagefull figure seems to express the subordination of the Aśvakas to the dynasty of candra.<sup>362</sup> The city coins are all in copper and are either cast or die-struck and they bear the bare names of Kauśāmbi, Ujjaini, Varāṇasi, etc.

Extreme rarity of these coins suggest that they were in circulation for a short period and in small number. It is almost certain that city coins were not struck by private bodies.<sup>363</sup>

## (ii) Coins of Native Indian States

Though these coins do not bear any place-name, yet they are attributed to particular regions on account of their characteristic features and the knowledge of their find spots. We have distinct series of coins for the regions of Ayodhyā, Kanauj, Kauśāmbi, Mathurā, Takṣhaśilā, etc. These coins are invariably in copper and generally die-struck. However, some early pieces like those from Ayodhyā and Kauśāmbi are cast.<sup>364</sup> Ayodhyā coins are square inscribed pieces, bear the names ending in-mitra. From Mathurā an ancient cast coin was found in the neighbourhood, bearing the inscription 'Upatikya' in Brahmi letters. It belonged at least as early as the 3rd cent B.C. The coins of Bālāhūti have brahmi characters of probably the 2nd cent. B.C.<sup>365</sup> Other coins of Hindu princes found at Mathurā are assigned to the period of decline of Śaka power. The Pāṅchāla coins (Ahichchhātra) have usually been attributed to the Śunga or Mitra Dynasty. They are characterised by the presence of three almost constant symbols—known as the three pāṅchāla symbols with the king's name below on the obverse. They are all in copper.

## 3. APPENDIX

## a. Śrāvastī Mint

A number of coins from Śrāvastī villages prove the existence of a mint at Śrāvastī in Śunga period and earlier. Copper coins have a distinct design, a decorated nandipāda with three arms. A cast copper coin and a stamped coin of the same class have also been found.<sup>366</sup> The die struck coin has on obverse, nandipada on standard, standing inside a railing, and a cock facing it to the right. The cast coin has the same standard of nandipāda but to its left there is some other object on another railing. Both have nandipāda in a semicircle on the reverse.<sup>367</sup>

Several coins of Agnimitra, in brass like material, with so called panchala symbols and

a similar small coin of the dynasty have also been found. All these appear to be local coins. There are three lead coins of Śrāvastu—all stamped. One of them bears a legend in Śunga character. The reverse is blank. There is a balance coin (no. 11) with one scale, the yard has a handle with three projections. Below the yard to the right there is a representation of, probably weights. In Maurya period we have (letter ) placed over the handle. The Śrāvastu coin is probably pre-Mauryan. The third coin is neatly struck on both sides. The obverse has either a *vata* or pipal tree in railing, with letter at both its corners. The reverse has an elephant. This seems to be Mauryan. All these are local coins of Śrāvastu.<sup>368</sup>

### b. Moulds of coins

A unique discovery by Dr. Sāhni is hundred moulds of coins below three feet in a mound called Khokrakot. The moulds to be arranged on discs when to work with, were fitted into piles in several layers with obverse and reverse moulds and were tied together in bunches. Probably the metal was poured in to each bunch through a central hole. There are grooves on the discs for the escape of extra metal. The legend on coins has two parts—the upper and the lower. The whole legend means : of the Yaudheyas : Bahudhanyakas, who were a member of Yaudheya federation of republics.<sup>369</sup> It has been guessed from other series of coins of Yaudheya that there were at least three members of the league. This supposition is now confirmed. Captain Cautley dug a large number of coins of Bahudhanyaka mint from Behrat in Distt. Saharanpur. They were of 'white bronze', a mixture of tin and copper, more valuable than copper. The Yaudheya federation composed of three states—The Bahudhanyaka and two others—in pre-Christian centuries. The obverse of the coin has a bull probably Śunga imperial sign. The reverse has an elephant, another Śunga symbol, a *nandipāda* and the letters probably Gana.<sup>370</sup> From Eran,<sup>371</sup> a circular lead piece bearing the impression of a die inscription in Mauryan Brāhmī, was found.

### c. Balanced marked coins

Two small oblong copper coins were brought from Rājgir, probably the ancient fort of Rājgir. They combine the characteristics of stamped system and cast coinage. The pieces were first cast and then stamped with a seal shaped die. This resulted in a shapely regular and neat coin. It has an initial in oldest Brāhmī. After the initial there is a scale with Brāhmī . The scale here and on other coins, denote the Pautava department of Hindu Government.<sup>372</sup> According to Arthaśāstra, this department was incharge of weights, which was definitely a state matter. The symbol guarantees the right weight of the coin. We have the symbol on silver punch marked coins of Mauryan times.<sup>373</sup> The same is found at Jaugad on a staff,<sup>374</sup> on a glass sealing,<sup>375</sup> on a clay sealing and on a coin like piece of copper dug out from Mauryan level by spooner at Pataliputra. It was evidently used in Maurya times as a royal mark, and denotes for Maurya. The clay sealing has no hole or mark of string to prove that it was carried by hand and that it was a state token.

Probably most of these balance marked pieces were used as tokens given at the gate by customs department. According to Arthaśāstra all merchants importing foreign goods were to be granted *mudrās*—seal passports to pass the goods at the barrier. Some of these coins appear to be such *mudrās* otherwise the clay seal, which is an exact copy of the copper piece of Pataliputra could not be explained.<sup>376</sup>

The Rājgir coins are not worn to show that they were not in circulation. The weight of lead coin of Śrāvastu is irregular. The silver punch marked pieces—where scale is one of the

several symbols, are certainly coins. To the passport class belong the glass scales found at Pataliputra.<sup>377</sup>

## J. Seals and Sealings

It is not yet definitely known that when the art of writing started in India. The earliest coins do not bear any written letter. Gradually some seals and sealings made of terracotta and bones or some potsherds bearing impressions are coming up into light through excavations. From them it appears that writing started around circa 5th cent. B.C. However, striking and world famous evidence came from Aśokan inscriptions belonging to C. 3rd cent. B.C.

Here we are concerned with seals and sealings which have been found in excavations as the earliest testimony of writing in ancient India, though they do not provide any important information, they do indicate proper literacy during the period<sup>378</sup> and that seals were used as personal mark in transacting business or perhaps in executing some contract between the individuals. One seal impression from Hastinapur (Plate: LXIX-2) also indicates the same.

The majority of seals and sealings are of terracotta followed by those of bone and ivory, stone and shell. The terracotta specimens have been found from a large number of sites including Atranjikhhera<sup>379</sup> (Plate . LXIX-4). Ahar,<sup>380</sup> Ayodhya,<sup>381</sup> Allahapur,<sup>382</sup> Campa,<sup>383</sup> Bateśwara,<sup>384</sup> Balirajgadh,<sup>385</sup> Daulatpur,<sup>386</sup> Dangwada,<sup>387</sup> Jajmau,<sup>388</sup> Katragarh,<sup>389</sup> Kauśambi,<sup>390</sup> Mathura,<sup>391</sup> Manwan,<sup>392</sup> Noh,<sup>393</sup> Purāna Qila,<sup>394</sup> Piprahwa,<sup>395</sup> Rajghat,<sup>396</sup> Raja Karana Ka Qila,<sup>397</sup> Śravasū,<sup>398</sup> Ruper,<sup>399</sup> Sonapur,<sup>400</sup> Sringverpur,<sup>401</sup> Sohagaura,<sup>402</sup> Vaiśali,<sup>403</sup> and Pataliputra.<sup>404</sup>

A specimen of bone (Plate : LXIX-3) has been reported from Atranjikhhera.<sup>405</sup> Some ivory specimens have been found from Jajmau,<sup>406</sup> Ruper,<sup>407</sup> and Ujjain.<sup>408</sup> Stone pieces have been found from Beśnagar,<sup>409</sup> Tripur,<sup>410</sup> and Pataliputra<sup>411</sup> and one of shell from Mathura.<sup>412</sup>

Unfortunately in most of the cases the legends or impressions on them are not known to us, as the reports of many of the sites have not occurred and they are simply reported in the Indian Archaeology—a review. However, in Rohtak ruins a baked clay seal with a hole and bearing a mark of string, was found by Dr. Sahni. It is in regular Śunga charactĕrs. The seal legend is in perfect Sanskrit. The seal is the first Sanskrit seal of pre-Christian centuries yet found.<sup>413</sup>

A few interesting seals and sealings have been found from different places. These depict auspicious symbols. Probably these were used as personal marks. Following specimen deserve attention.

Two identical terracotta sealings have been found from Raja Karan Ka Qila.<sup>414</sup> They bear auspicious symbols like Svastika, Snake, Nandipāda and Crescent. From Vaiśali,<sup>415</sup> the emblems of monkey, elephant, Ujjain symbol, arrow mark, flower stalk, human feet etc. were found on the specimens belonging to Maurya level. The symbols of humped bull, Svastika, Taurine, Cross, Crescent, etc. appeared on Śunga examples. These symbols on seals and sealings were generally individual emblems which revealed either Brahmanic character of the people of the period concerned or they were official representatives. Besides these, a very interesting sealing belonging to circa 1st cent. B.C. has been found from Kauśambi.<sup>416</sup> It is in Allahabad Museum. The field of the sealing shows two separate plants with thick and slightly curved trunk. In the upper register a monkey is seated on either side of the tree. Both of them seem to be in conversation. The figures are shown inside an oval circle. On the left side of the second tree in the lower register there is a standing figure holding a staff. An animal is also visible near his feet.

A list of seals and sealings found during excavations is given in the chart.

54. *Ibid.*, frag. XI; Strabo XV. i.20, p. 693.
55. R. C. Gaur, *op. cit.*, p. 244 cf. K. A. Chaudhary, *Ancient Agriculture and Forestry in Northern India*.
56. R. C. Gaur, *op. cit.*, p. 459.
57. P. Sen Gupta, *op. cit.*, p. 113.
58. J. W. McCrindle, *op. cit.*, Section II. Strabo's Geography, Book XV. 22, p. 28.
59. R. C. Gaur, *op. cit.*, pp. 461-471.
60. J. Auboyer, *op. cit.*, pp. 62-66.
61. Cf. (Mrs.) D. R. Shah in *Excavation at Atranjikhera*, pp. 461-471.
62. A. K. Narain and T. N. Roy, *op. cit.*, p. 28.
63. Cf. K. M. Srivastava, *IAR* 1964-65, p. 34.
64. H. Zimmer, *op. cit.*, Vol. 2, plate 15 see bracket Sālbhanjikā of the Eastern Gateway.
65. A. L. Basham, *op. cit.*, p. 219.
66. R. Shamsastry, *op. cit.*, p. 127.
67. A. K. Coomaraswamy, *op. cit.*, p. 16.
68. Cf. B. P. Sinha, *IAR* 1970-71, p. 5.
69. Cf. A. K. Narain, *IAR* 1967-68, p. 49.
70. B. P. Sinha and T. N. Roy; *IAR* 1962-63, p. 41.
71. *IAR* 1977-78, p. 15.
72. R. C. Gaur, *op. cit.*, p. 351.
73. No. 573 in Bharat Kala Bhawan, Varanasi.
74. Cf. Vijay Kumar, *IAR* 1971-72, p. 42.
75. H. C. Srivastava in *Excavation at Atranjikhera*, p. 499.
76. R. C. Gaur, *op. cit.*, p. 379.
77. K. K. Sinha, *op. cit.*, pp. 69-71.
78. B. B. Lal, *A.J.* nos. 10 and 11.
79. *Ibid.*, p. 105, plate LX.2.
80. Cf. Romila Thapar, *IAR* 1970-71, p. 42.
81. Cf. R. C. Singh, *IAR* 1978-79, p. 74.
82. *Ibid.*, *IAR* 1975-76, p. 52; *IAR* 1976-77, p. 54.
83. R. C. Gaur, *op. cit.*, pp. 415, 417.
84. Cf. N. R. Banerjee, *IAR* 1956-57, pp. 24-27.
85. R. Sham Sastry, *op. cit.*, p. 46
86. *Ibid.*, p. 85.
87. *Ibid.*, p. 83.
88. *Ibid.*, p. 89.
89. R. C. Gaur, *op. cit.*, pp. 381-82.
90. Cf. Sita Ram Roy, *IAR* 1972-73, p. 7.
91. Cf. B. P. Sinha, *IAR* 1974-75, p. 8; *IAR* 1975-76, p. 7.
92. Cf. Vijay Kumar, *IAR* 1971-72, p. 42.
93. J. W. Mc'Crindle, *op. cit.*, frag. I, p. 30.
94. Cf. Bloch and Vredenburg in *A.S.R.*, 1903-4.
95. Cf. V. H. Jackson, *J.B.O.R.S.*, Vol. XIII, pt. II, June 1927, p. 125.
96. A. L. Basham, *op. cit.*, p. 219.
97. No. 68.163 in National Museum, New Delhi.
98. Marshall and Foucher, *op. cit.*, part I, p. 161.
99. *Ibid.*
100. *Ibid.*, p. 162.
101. *Ibid.*
102. R. C. Majumdar, *op. cit.*, p. 69.
103. P. Sen Gupta, *op. cit.*, p. 182.
104. A. L. Srivastava, *op. cit.*, p. 72.
105. R. C. Majumdar, *op. cit.*, p. 540.
106. *Ibid.*
107. *Ibid.*
108. R. Sham Sastry, *op. cit.*, p. 112.
109. R. C. Majumdar, *op. cit.*, p. 541.
110. *Ibid.*
111. Shanti Swaroop, *5000 years of Art of India and Pakistan*, p. 234.

112. G. N. Pant, *Indian Arms and Armour* I, p. 112.
113. *Ibid.*
114. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
115. R. C. Gaur, *op. cit.*, p. 381.
116. Cf. V. H. Jackson, *J.B.O.R.S.*, Vol. XIII, pt. II (1927), p. 127.
117. Cf. B. P. Sinha, *IAR* 1966-67, p. 6.
118. K. Krishnamurty, *op. cit.*, p. 143.
119. R. C. Gaur, *op. cit.*, p. 445.
120. Cf. Vijay Kumar, *IAR* 1971-72, p. 42.
121. Cf. B. P. Sinha, *IAR* 1966-67, p. 6.
122. Cf. K. M. Srivastava, *IAR* 1974-75, pp. 40-41.
123. R. C. Gaur, *op. cit.*, p. 440.
124. Cf. B. P. Sinha, *IAR* 1955-56, p. 55, plate XXVI.
125. K. K. Sinha, *op. cit.*, pp. 58-60.
126. K. Krishnamurty, *op. cit.*, p. 144.
127. B. B. Lal, *A.I.* nos. 10 and 11.
128. R. C. Gaur, *op. cit.*, p. 438.
129. K. K. Sinha, *op. cit.*, pp. 66-68, fig. 21.
130. Cf. K. M. Srivastava, *IAR* 1974-75, pp. 40-41.
131. R. C. Gaur, *op. cit.*, p. 431.
132. K. Krishnamurty, *op. cit.*, p. 142.
133. R. C. Gaur, *op. cit.*, p. 445.
134. Cf. N. R. Banerjee, *IAR* 1955-56, pp. 11, 14.
135. R. C. Gaur, *op. cit.*, p. 436.
136. K. K. Sinha, *op. cit.*, pp. 66-68.
137. R. C. Gaur, *op. cit.*, p. 436.
138. *Ibid.*, p. 436.
139. *Ibid.*, p. 436.
140. K. K. Sinha, *op. cit.*, pp. 66-68.
141. R. C. Gaur, *op. cit.*, p. 435.
142. A. K. Narain and T. N. Roy, *op. cit.*, p. 63.
143. R. C. Gaur, *op. cit.*, pp. 381-382.
144. Cf. Sita Ram Roy, *IAR* 1972-73, p. 7.
145. Cf. B. P. Sinha, *IAR* 1974-75, p. 8; and *IAR* 1975-76, p. 7.
146. Cf. Vijay Kumar, *IAR* 1971-72, p. 42.
147. R. C. Gaur, *op. cit.*, p. 432.
148. *Ibid.*, p. 415.
149. Cf. B. P. Sinha, *IAR* 1971-72, p. 6.
150. Cf. B. P. Sinha, *Ibid.*, p. 5.
151. Cf. R. C. Singh, *IAR* 1976-77, p. 54.
152. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
153. Cf. Sita Ram Roy, *IAR* 1976-77, p. 12.
154. Cf. M. Venkatramayya, *IAR* 1954-55, pp. 15-16.
155. Cf. N. R. Banerjee, *IAR* 1955-56, pp. 11, 14.
156. Cf. B. P. Sinha, *IAR* 1966-67, p. 6.
157. Cf. S. N. Chaturvedi, *IAR* 1974-75, p. 47.
158. Cf. A. S. Altekar, *IAR* 1959-60, p. 14.
159. Cf. N. R. Banerjee, *IAR* 1957-58, p. 36.
160. Cf. K. M. Srivastava, *IAR* 1974-75, pp. 40-41.
161. R. C. Gaur, *op. cit.*, p. 415.
162. Cf. B. P. Sinha, *IAR* 1968-69, p. 6.
163. Cf. *IAR* 1977-78, p. 15.
164. Cf. K. D. Bajpai, *IAR* 1961-62, p. 25.
165. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.
166. Cf. V. K. Misra, *IAR* 1955-56, p. 22.
167. Cf. Raghbir Singh, *IAR* 1974-75, p. 11.
168. R. C. Gaur, *op. cit.*, p. 417.
169. Cf. Vijay Kumar, *IAR* 1971-72, p. 42.

170. K. K. Sinha, *op. cit.*, pp. 66-68.
171. R. C. Gaur, *op. cit.*, p. 445.
172. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.
173. Cf. N. R. Banerjee, *IAR* 1956-57, p. 27.
174. R. C. Gaur, *op. cit.*, p. 251.
175. Cf. M. D. Khare, *IAR* 1964-65, pp. 19-20.
176. Cf. M. Venkatramayya, *IAR* 1954-55, pp. 15-16.
177. Cf. N. R. Banerjee, *IAR* 1957-58, p. 36.
178. Cf. K. D. Bajpai, *IAR* 1972-73, pp. 15-16.
179. Motichandra, *Trade and traderroutes in Ancient India*, p. 233.
180. R. C. Gaur, *op. cit.*, p. 421.
181. Cf. B. P. Sinha, *IAR* 1971-72, p. 6.
182. Cf. B. P. Sinha, *IAR* 1974-75, p. 8.
183. Cf. K. D. Bajpai, *IAR* 1963-64, p. 16.
184. Cf. Sita Ram Roy, *IAR* 1961-62, p. 5.
185. Cf. K. M. Srivastava, *IAR* 1974-75, pp. 40-41.
186. Cf. M. M. Nagar, *IAR* 1957-58, p. 49.
187. Cf. K. D. Bajpai, *IAR* 1963-64, p. 16.
188. Cf. *IAR* 1977-78, p. 15.
189. Cf. A. S. Alterkar, *IAR* 1959-60, p. 14.
190. R. C. Gaur, *op. cit.*, p. 445.
191. Motichandra, *op. cit.*, p. 1.
192. *Ibid.*
193. Sattigumba Jataka, Faustball, (tr) English Vol. IV, p. 450.
194. Jarudapana Jataka, *Jataka* Vol. II, p. 294.
195. R. P. Kangle, *op. cit.*, II 4, 5.
196. *Ibid.*
197. *Ibid.*, VII, 12, 18, cf. Motichandra, *op. cit.*, 1977, pp. 77-78.
198. J. W. McCrindle, *op. cit.*, Frag. 34.
199. D. D. Kosambi, *The Culture and Civilization of Ancient India*, p. 159.
200. D. R. Bhandarkar, *op. cit.*, p. 276.
201. Motichandra, *op. cit.*, pp. 226-232.
202. B. M. Barua, *op. cit.*
203. *Ibid.*, plate 69, fig. 86.
204. A. L. Srivastava, *op. cit.*, p. 78.
205. Cf. Sita Ram Roy, *IAR* 1974-75, p. 10.
206. Cf. B. P. Sinha, *IAR* 1968-69, p. 6.
207. Cf. B. P. Sinha, *IAR* 1972-73, pp. 6-7.
208. No. 78.936 at National Museum, New Delhi.
209. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.
210. Cf. J. H. Marshall, Excavations at Bhita (*ASIAR*, 1911-12) plate XXIII. 20, 1915.
211. Cf. B. K. Thapar, *IAR* 1975-76, pp. 53-55.
212. Cf. N. R. Banerjee, *IAR* 1955-56, p. 11, 14.
213. Cf. Vijay Kumar, *IAR* 1965-66, p. 38.
214. Cf. V. H. Jackson, *JBORS*, Vol. xiii, pt II, pp. 126-127.
215. R. C. Gaur, *op. cit.*, p. 373.
216. G. R. Sharma, *op. cit.*
217. Cf. J. H. Marshall, *op. cit.*, (*ASIAR*, 1911-12) 1915, plate xxiii.20.
218. A. K. Coomaraswamy, 'Early Indian Terracottas' (*BMFAB*, Vol. xxv) (1927) fig. 11, p. 95.
219. R. C. Gaur, *op. cit.*, plate xxviii, p. 373.
220. No. 65.100 in State Museum, Lucknow.
221. No. 5197 in Allahabad Municipal Museum.
222. No. 538G in Allahabad Municipal Museum.
223. No. 75.695 and 75.696 in National Museum, New Delhi.
224. Cf. B. K. Thapar, *IAR* 1975-76, p. 63 and 55.
225. Cf. V. H. Jackson, *JBORS* Vol. xiii, pt. II (June, 1927), pp. 126-127.
226. Cf. N. R. Banerjee, *IAR* 1955-56, p. 11, 14.
227. Cf. B. P. Sinha, *IAR* 1971-72, p. 5.

228. Cf. N. R. Banerjee, *IAR* 1963-64, p. 44.
229. Cf. A. K. Narain, *IAR* 1969-70, p. 40.
230. R. C. Gaur, *op. cit.*, pp. 373-374.
231. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
232. Cf. Sita Ram Roy, *IAR* 1974-75, p. 10.
233. Cf. K. D. Bajpai, *IAR* 1964-65, pp. 17-18.
234. Cf. K. N. Dixit, *IAR* 1978-79, p. 61.
235. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.
236. Cf. B. K. Thapar, *IAR* 1975-76, pp. 53-55.
237. Cf. R. B. Narain, *IAR* 1965-66, p. 51.
238. *IAR* 1978-79, p. 54.
239. Cf. Vijay Kumar, *IAR* 1971-72, p. 42.
240. Cf. K. M. Srivastava, *IAR* 1974-75, pp. 40-41.
241. Cf. B. B. Lal, *IAR* 1978-79, p. 62.
242. Cf. T. N. Roy and B. P. Singh, *IAR* 1962-63, p. 41.
243. G. R. Sharma, *op. cit.*
244. K. K. Sinha, *op. cit.*, pp. 58-60.
245. Cf. Sita Ram Roy, *IAR* 1961-62, p. 5.
246. R. C. Gaur, *op. cit.*, p. 374, plate xc.
247. A. Cunningham, *op. cit.*, p. 124.
248. *Ibid.*
249. *Ibid.*
250. J. W. McCrindle, *op. cit.*, p. 693.
251. A. L. Srivastava, *op. cit.*, p. 77.
252. R. C. Gaur, *op. cit.*, plate LXXXIX.
253. *Ibid.*, plate LXXXVIII.
254. V. S. Agrawala, *Indian Art*, p. 308-316.
255. No. 2589 in Allahabad Municipal Museum.
256. S. C. Kala, *op. cit.*, p. 42.
257. *Ibid.*, pp. 72-73.
258. Cf. R. C. Gaur, *IAR* 1967-68, p. 46.
259. No. 562 in Allahabad Municipal Museum; cf. S. C. Kala, *op. cit.*, p. 73.
260. No. 74.308 in National Museum, New Delhi.
261. No. 65.103 in State Museum, Lucknow.
262. No. 67.603 in State Museum, and A. 141, S. M. Lucknow.
263. No. 65.88 in State Museum, Lucknow.
264. No. 5080 in Allahabad Municipal Museum.
265. Nos. 75.695 and 75.696 in National Museum, New Delhi.
266. No. 2611 in Allahabad Municipal Museum cf. S. C. Kala, *op. cit.*, p. 73.
267. No. 78.936 in National Museum, New Delhi.
268. J. Marshall and A. Foucher, *op. cit.*, plate 20.B.
269. *Ibid.*, plate 31.
270. B. M. Barua, *op. cit.*, p. 59.
271. J. Marshall and A. Foucher, *op. cit.*, plate 62.
272. B. M. Barua, *op. cit.*, p. 59.
273. An elephant goad (Ankush) was found at Sravasti from period I (SRVI-774). The projection in its side is the broken stump of the curved hook (cf. K. K. Sinha, *op. cit.*, p. 68).
274. 50.267, National Museum, New Delhi.
275. A. L. Srivastava, *op. cit.*, p. 82.
276. *Ibid.*, p. 83.
277. B. M. Barua, *op. cit.*, p. 60.
278. S. C. Kala, *op. cit.*, p. 40.
279. R. K. Mookerji, *Indian Shipping*, p. 79.
280. V. A. Smith, *Early History of India*, p. 55.
281. *Ibid.*, pp. 59-60.
282. *Jataka* II (Trans. by Fausball), p. 127 cf. R. C. Majumdar, *op. cit.*, p. 74.
283. *Jataka*, Vol. V, p. 75 cf. *Ibid.*
284. H. C. Hamilton and W. Falconer (tr.) *Geography of Strabo*, XV. 46. cf. R. K. Mookerji, *op. cit.*, p. 72.

341. G. R. Sharma, *op. cit.*, pp. 80-85.
342. A. K. Narain and T. N. Roy, *op. cit.*, p. 62.
343. Cf. B. Ch. Chhabra, *IAR* 1965-66, p. 36.
344. Cf. A. S. Altekar, *IAR* 1959-60, p. 14.
345. Cf. K. M. Srivastava, *IAR* 1974-75, pp. 40-41.
346. B. B. Lal, *A.I.* nos. 10 and 11; cf. Y. D. Sharma, *A.I.* no. 9, p. 40.
347. Cf. G. M. Young, *A.I.* no. 1, pp. 27-36.
348. Cf. B. K. Thapar, *IAR* 1974-75, p. 49.
349. Cf. K. D. Bajpai, *IAR* 1974-75, pp. 21-22.
350. A. K. Narain and T. N. Roy, *op. cit.*, p. 62.
351. K. K. Sinha, *op. cit.*, pp. 73-75.
352. B. P. Sinha and S. R. Roy, *op. cit.*, p. 132.
353. D. C. Sirkar, *op. cit.*, pp. 48-61.
354. *Ibid.*, According to Nearchus, Indians used only cast bronze but not hammered.
355. R. C. Gaur, *op. cit.*, p. 448.
356. G. R. Sharma, *op. cit.*, pp. 80-85, plate 48, 49.
357. Cf. H. Haertal, *IAR* 1966-67, p. 42.
358. Cf. V. K. Misra, *IAR* 1974-75, pp. 10, 11.
359. B. P. Sinha and S. R. Roy, *op. cit.*, p. 132.
360. Cf. K. P. Jaiswal, *J.B.O.R.S.*, Vol. XX, pt. III.IV (1934), pp. 279-293.
361. *Ibid.*
362. Cf. J. P. Singh, *Early Indian Indigenous Coins* in D. C. Sirkar, *op. cit.*, pp. 101-110.
363. K. P. Jayaswal, *J.B.O.R.S.*, Vol. xx, pt. III, IV (1934), pp. 279-293.
364. Cf. A. N. Lahira, 'Early Indigenous of Northern India' in D. C. Sirkar, *op. cit.*, pp. 48-61.
365. *Ibid.*
366. E. J. Rapson, *op. cit.*, pp. 11-13.
367. *Ibid.*
368. K. P. Jayaswal, *J.B.O.R.S.*, No. XXII, pt. II (1936), pp. 68-69.
369. *Ibid.*
370. *Ibid.*, pp. 59-62.
371. *Ibid.*
372. Cf. K. D. Bajpai, *IAR* 1960-61, p. 18.
373. *Ibid.*, pp. 65-68.
374. *J.B.O.R.S.* (1919), p. 430, plate III. 32.33.34.
375. Hultzsch, *Corpus Inscriptionum Indicarum* Vol. 1, p. 116.
376. *J.B.O.R.S.* Vol. x, p. 189, plate 4.
377. K. P. Jayaswal, *J.B.O.R.S.*, Vol. xxii, pt. II (1936), pp. 65-68.
378. *J.B.O.R.S.*, x, p. 189.
379. An early Śunga terracotta belonging to c 2nd cent. B.C., now in National Museum, New Delhi, shows a boy copying the vowels of the alphabet, writing each letter five times.
380. R. C. Gaur, *op. cit.*, p. 452.
381. Cf. H. D. Sankalia, *IAR* 1961-62, pp. 45, 50.
382. Cf. A. K. Narain, *IAR* 1976-77, p. 53.
383. Cf. Romila Thapar, *IAR* 1970-71, p. 41.
384. Cf. B. P. Sinha, *IAR* 1969-70, p. 2.
385. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
386. Cf. Sita Ram Roy, *IAR* 1972-73, p. 7.
387. Cf. U. V. Singh, *IAR* 1968-69, pp. 8-9.
388. Cf. V. S. Wakankar, *IAR* 1978-79, pp. 70-71.
389. Cf. R. C. Singh, *IAR* 1976-77, p. 54.
390. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8; *IAR* 1976-77, p. 12.
391. G. R. Sharma, *op. cit.*, pp. 85-86.
392. Cf. H. Haertal, *IAR* 1970-71, p. 42.
393. *IAR* 1969-70, p. 44.
394. Cf. R. C. Agrawala, *IAR* 1966-67, p. 31.
395. Cf. B. B. Lal, *IAR* 1969-70, p. 4; *IAR* 1970-71, pp. 8-10.
396. Cf. K. M. Srivastava, *IAR* 1973-74, p. 27.
397. A. K. Narain and T. N. Roy, *op. cit.*



398. Cf. U. V. Singh, *IAR* 1975-76, p. 18.
399. Cf. K. K. Sinha, *IAR* 1958-59, p. 50.
400. Cf. Y. D. Sharma, *IAR* 1953-54, pp. 6-7.
401. Cf. A. S. Altekar, *IAR* 1956-57, pp. 19-20.
402. Cf. B. B. Lal, *IAR* 1978-79, p. 59.
403. Cf. G. C. Pande, *IAR* 1961-62; cf. S. N. Chaturvedi, *IAR* 1974-75.
404. B. P. Sinha and S. R. Roy, *op. cit.*, pp. 110-112.
405. Cf. V. K. Misra, *IAR* 1955-56, p. 22.
406. R. C. Gaur, *op. cit.*, p. 452.
407. Cf. R. C. Singh, *IAR* 1975-76, p. 52.
408. Cf. Y. D. Sharma, *IAR* 1953-54, pp. 6-7.
409. Cf. N. R. Banerjee, *IAR* 1956-57, p. 27; *IAR* 1957-58, p. 36.
410. Cf. M. D. Khare, *IAR* 1963-64, pp. 16-17.
411. Cf. K. D. Bajpai, *IAR* 1968-69, p. 12.
412. Cf. V. K. Misra, *IAR* 1955-56, p. 22.
413. Cf. B. K. Thapar, *IAR* 1973-74, p. 32.
414. Cf. K. P. Jayarwal, *J.B.O.R.S.*, Vol. XXII, pt. II (1936), pp. 59-62, plate II, III and IV.
415. Cf. U. V. Singh, *IAR* 1975-76, p. 18.
416. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 112-113.
417. S. C. Kala, *op. cit.*, p. 111.

## FOUR

# ART

### A. Sculptures

The sculptures of our period of study broadly incorporates three main traditions:

- (1) A purely indigenous tradition of folk art which may be recognised in a group of famous free-standing stone statues of colossal size. These have been found at many places in north India. They are mostly figures of *Yakshas* and *Yakshis*, designed from a frontal viewpoint, with flattened sides representing a relatively advanced art of earlier tradition.<sup>1</sup>
- (2) The court art for which the emperor Aśoka was directly responsible.<sup>2</sup> This can be typically seen in the monolithic columns on which are inscribed his edicts and in which foreign elements predominate.<sup>3</sup>
- (3) The Pre-Mauryan tradition continued in one way or the other upto the Śunga period. The most striking illustration of this development is afforded by the sculptured reliefs of Sūrya and Indra, the two vedic deities in the verandah of the Bhaja Vihāra.<sup>4</sup>

According to Coomaraswamy, "Except at Bharhut, however, the greatest part of the sculpture seems to be secular or decorative, rather than definitely religious."<sup>5</sup>

Each item of the three categories referred to above are discussed below for full appreciation of the art tradition of the period.

#### 1. AŚOKAN PILLARS

The object of these pillars was definitely to propagate the message of 'Dhamma' of Aśoka.<sup>6</sup> These pillars represent the high watermark of Mauryan achievement in the domain of fine arts. They generally consist of a round and monolithic shaft tapering from the base with a diameter ranging from about 35.5" to 49.5" to a total height of between 40' and 50', diameter at the top ranging from 22" to about 35".<sup>7</sup> (Plate : LXX-A)

These columns were "originally crowned by capitals of sculptured animals of both Buddhist and Ancient Indian metaphysical significance,"<sup>8</sup> so they are included in the scope of sculpre rather than of architecture. According to Buddhist conception prevalent in Ceylon, the animals are considered to be the guardians of the four cardinal points.<sup>9</sup>

A study of the capitals crowning the pillars reveals a rough chronological sequence as arranged below :

1. The earliest one is marked by the lion capital at Bakhira; the elephant at Sankisa, and the rock cut elephant at Dhaulti. These belong to the crude style.<sup>10</sup>

2. The next stage is represented by the Rampurva bull capital (Plate : LXX-B) followed closely by the lion capital at Lauria Nandangarh. In both of these we find the dignity of conception and balance in the execution of the different parts.<sup>11</sup>
3. The final stage is represented by the lion capital at Rampurva and the lion capital at Sanchi culminating in the form of the lion capital at Sarnath.<sup>12</sup>

The column standing at Lauria Nandangarh (Plate : LXX-A) is carved out from the outcrop of grey conar sandstone. This stands directly on the ground without any masonry platform or base and is simply buried in the earth. The shaft is plain, circular in section, slightly taper upwards and is chiselled out of a single block of stone. The capital surmounting it, being a separate piece is fixed to the shaft at the top by means of a copper dowel.<sup>13</sup> The capital consists of a sejan lion, a round abacus decorated with pecking geese-pattern and finally an inverted lotus below. The lowermost portion is covered with over flowing recurved and stylised petals. It shows the cord design both above and below. The expression in the figure of lion is much more vigorous and intense. The details of the nerves and the veins are more sharply defined.<sup>14</sup>

The elephant capital at Sankisa consists of three parts:

- (1) an elephant on the top;
- (2) a round abacus in the middle; and
- (3) an inverted lotus below.

The decoration on the abacus consists of the honey suckle design and lotus, and a reel border. Here the abacus and the inverted lotus are much better but the elephant is rather plump and static. It does not show any motion and its front legs are filled like pillars.<sup>15</sup>

The lion figure on the Bakhira lion capital is clumsy and crude in style; the shaft of the column is heavy and dwarfish in proportion. The animal is uncomfortably placed on its abacus. It is rather wooden in appearance and lacks in natural expression. The abacus, the inverted lotus and the standing shaft all point to an inferior workman.<sup>16</sup>

At Salempur there has been found a fragmentary capital with four adorsed bulls.<sup>17</sup>

In the Basarh-Bakhira Pillar, the portion above ground, bears no inscription and similar is the case with Sankisa and Salempur columns.<sup>18</sup>

The Rampurva bull capital consists of an animal sculpture at the top, a round abacus in the middle and an inverted lotus below separated by a corded design in between them.<sup>19</sup> The round abacus depicts the honey suckle and the acanthus all round,<sup>20</sup> the muscular bull stands in a graceful manner. The three elements of this pillar are symmetrical.<sup>21</sup>

Compared with the bull, the lion figures on the other capitals are more stylised. However, its realism is suggested through the intense muscles and the swelling up veins.<sup>22</sup> The Rampurva lion capital is almost similar to the lion capital at Lauriya Nandangarh. It consists of three elements : a sejan lion, seated on its haunches on a round abacus with row of Hansas and a lotus with overflowing leaves and petals separated by a plain round moulding. The abacus adequately balances the animal figure.<sup>23</sup>

The Sarnath quadripartite is by far the most celebrated of all these animal capitals.<sup>24</sup> Except for more erect attitudes, necessitated by demands of composition, the treatment is similar to that in the single figure from Rampurva and Lauriya Nandangarh.<sup>25</sup>

The capital consists of four component parts viz. (1) the inverted lotus, (2) the round abacus, (3) the surmounting four lions seated back to back and (4) a crowning dharmacakra

supported on the heads of the four lions (now broken). The abacus is decorated by four running animals (an elephant, a horse, a bull and a lion) alternating with four small dharma-cakras. Each dharma-cakra has twenty four spokes.<sup>26</sup> These animal figures are rather in strong contrast to the more conventional and stylised treatment of the lions above.<sup>27</sup> The total height of the lion capital is 12'11." The Dharma-cakra on the top was about twice as big as the smaller dharma-cakras on the abacus. It had 32 spokes and its base was inserted in a mortise hole 8" in diameter with a depth of 4."<sup>28</sup>

"A colossal capital was recovered during the first excavation at Pataliputra. It has the stepped impost block, side volutes and central palmettes; the beads and reel, labial and spiral motifs on the lateral face and the rosette ornament of the abacus."<sup>29</sup>

Fragment of a lion capital with an inverted lotus design on an abacus was found from Bansaon Tehsil of Basu.<sup>30</sup> Only paws of the lion are distinct.

## 2. DHAULI ELEPHANT

It represents (Plate : LXXI-A) the forepart of an elephant carved in the rock at Dhaulti near Bhuvanesvara (Orissa), over the edicts of Aśoka, including the two specially meant for Kalīṅga.<sup>31</sup>

The Dhaulti elephant is artistically far superior than its sankisa cousin. The knowledge of such physiognomical form of the subject treated with a sense of dignified movement and linear rhythm has no parallel in Maurya animal sculptures. Even the Rampurva lion or the Samath quadripartite appear lifeless when compared with it.<sup>32</sup>

The influence of west Asiatic factor in the art and culture of the period cannot be denied.<sup>33</sup> According to Bechhofer the western influence is there, particularly if we consider the representation of the lions over the Aśokan columns. According to him the Indian lions of the Aśoka period, resemble in several points, the Greek works. For instance in the reproduction of the cheek bones and the moustache; the eye too is comparatively deeply embedded, while in the entire Indian art it is protruding. These similarities in addition to the advanced power of visualizing the art details lead to the assumption that the cunār artist must have studied western plastic works thoroughly.<sup>34</sup> On the whole the Artist's sense of anatomy of the animal sculptures crowning the Aśokan pillars has rarely been surpassed.<sup>35</sup> According to Śiva Rāmamūrti,<sup>36</sup> Aśokan pillars owe some Persian features. For example numerous bell shaped capitals crowned by animal figures apparently do not appear Indian. Marshall too thinks that the "Persian influences were actually felt in India in and after the Mauryan period; but there is no reason to infer that any of these parallels or borrowings connote a religious, social or political dependence of Northern India on Persia."<sup>37</sup>

However, Saraswati<sup>38</sup> is of the view that the animals of the Mauryan columns exhibit same indigenous quality of naturalism as is seen in Indus seals. So is the case with the Rampurva bull.<sup>39</sup>

## 3. YAKSHAS AND YAKSHINIS

An earlier conception about Yakṣha was having a huge body, perhaps after an Atharva Vedic concept. ( x.2.32). This is generally borne out by the independent Yakṣha statues as well as their representations at Bharhut.<sup>40</sup> The following images are noteworthy<sup>41</sup> :

1. Yakṣhīa statue from Parkham Village (Plate : LXXI-B) in Mathurā.
2. Yakṣha from Baroda village in Mathurā.

3. Yakshi from Jhing Ka nagara in Mathura.
4. Yaksha statue found at Noh village in Bharatpur.
5. Yakshi from Besnagar near Bhopal (Indian Museum).
6. A Yaksha statue from Pawaya, ancient Padmawati now in Gwalior Museum.
7. Yakshi holding flywhisk in the right hand from Didarganj; Patna (Plate: LXXII-A).
- 8-9. Two Yaksha statues from Patna, now in Indian museum.
10. Yakshi statue at Besnagar locally known as Telin.
11. Trimukha Yaksha statue, trifaced image found at Rajghat now in Bharat Kala Bhawan, B.H.U.
12. A Yaksha image probably from Sopara, now in National Museum.
13. A Yaksha image found at Bhilsa.
14. Several big statues of Yakshas found at Sisupalgadh.
15. Ahichhatra Yaksha from Phalgu Vihara.
16. Yaksha image from Amin in Kurukshetra.

Stylistically the Yaksha images have the following characteristics.<sup>42</sup>

- (1) They are of colossal size, massively built having pronounced muscular depiction.
- (2) They are usually carved in the round and free standing. Their frontal view indicates that they were to be seen primarily from the front side.
- (3) Their drapery consists of a turban, an upper scarf thrown on the shoulders and arms, or tied round the chest and a dhoti hanging below upto the ankles and fastened with a girdle.
- (4) Their ornaments consists of heavy earrings and torque (Kantha), a flat triangular necklace and armlets with feathered projections.
- (5) These figures are slightly protuberant or pot bellied as in the case of Parkham and Pawaya Yakshas.

A few massive sculptures like Didarganj Yakshi from Chunar are in the round and are tentatively ascribed to the Maurya period on account of a smooth polish on their surface resembling the Aśokan columns.<sup>43</sup>

For some unknown reasons the Mauryan technique of polishing the stone is not found in Śunga or later art.<sup>44</sup> However, a few later sculptural specimens including the palm tree from Kausambi primarily did exhibit the continuance of polishing tradition though rarely. Most of these monolithic statues have an archaic appearance, but express great virility and life. Their skilful carving and technical maturity suggests a long traditional or prior development and practice of sculptural art in India.<sup>45</sup> The representation of Yaksha and Yakshi is seen in the art of Bharhut and Sanci as well as in Mathura, Amaravati and elsewhere.<sup>46</sup> Since many of the Yaksha images have been found near water reservoirs it appears that their shrines once existed near the ponds or pools of water.<sup>47</sup>

To the Śunga period (185-80 B.C.) must be assigned the sculptured railings and gateway at Bharhut, the stone casing, ground balustrade and plain railing at Sanci, the sculptured railings at Bodhgaya and certain fragments at Mathura.<sup>48</sup> Some fragmentary Śunga human heads and statuettes show that the Śunga style varied from the Maurya. But even the smallest of these figures in stone and terracotta maintain the monumental quality of the earlier school.<sup>49</sup>

#### 4. SCULPTURES AT BHARHUT

Much has been written on the Bharhut sculptures.<sup>50</sup> Therefore, only its salient features

are enumerated here to understand its thematic concept and its social and religious importance.

Subjects represented in Bharhut sculptures include about 20 Jataka scenes, more than thirty statues in high relief of Yakṣhas, Yakṣhiṅīs, devatās and Nāgarājas, one half of which are inscribed with their names; and representations of animals and trees. On about half of the full medallions with other objects, there are boats, horse, chariots and bullock carts besides several kinds of musical instruments, and a large variety of flags, standards and other symbols of royalty. About one half of the full medallions of the cross bars and all of the half medallions of the pillars are filled with flowered ornaments of singular beauty and delicacy of design.<sup>51</sup>

According to Agrawala, the sculptures may be divided into following heads:

- a. Super human beings
  1. Yakṣha, 2. Devatās, 3. Nāgas, & 4. Apsarās
- b. Human beings
  1. Royal persons, 2. Religious persons
- c. Animals
- d. Trees and fruits
- e. Sculptured scenes in Bas reliefs
  1. Jataka stories (more than 20 in number)
  2. Historical scenes (nearly six)
  3. Miscellaneous scenes (inscribed)
  4. Miscellaneous scenes (uninscribed)
  5. Humorous scenes
- f. Objects of Worship
  1. Stupās 2. Wheels 3. Bodhi Tree
  4. Foot prints (Pāduka; Buddha Pāduka)
  5. Triratna symbol.
- g. Decorative Ornaments
- h. Buildings
  1. Palace, 2. Religious houses,
  3. Vajrāsana or Bodhi manda,
  4. Pillars, 5. Hermitage of Ascetics,
  6. Dwelling houses.

Besides these there are vehicles, furnitures, utensils and musical instruments.<sup>52</sup>

#### a. Super Human Beings

##### (i) Yakṣhas

All popular deities classified as Yakṣhas, Gandharvas, Kumbhandas (ithyphallic dwarf) and Nāgas, occupied their respective corners in Sāncī Stūpa. Two of these were found by Cunningham in Bharhut Stūpa viz. Kubera (Yakṣha) on the north and dwarfs on the South.<sup>53</sup>

Single images mostly Yakṣhas and Yakṣhiṅīs are sculptured on the upright pillars. In some cases their names are inscribed in Kharoṣṭī. Females generally stand on horse faced crocodiles or three headed lions. While some are seen entwining the trunks of the tree with left arm and leg, and clasping a bough with the right hand.<sup>54</sup> It appears that the tutelary deities which were once common in the folk belief were admitted in the conception of the Stūpa.<sup>55</sup>

## (ii) Devatās

Devata figures are all female sculptured on the pillars. These include *Sirima* (Plate : CI-B), *Chulakoka* and *Mahakoka*. *Sirima* was the same as Śrī Lakṣmī.

## (iii) Nāgās

Nāga worship appears to be popular as it found due place in the art of Mahastūpa.<sup>56</sup>

At Bharhut the figure of Erapata (Elapatra) is shown worshipping the Bodhi tree with his family and is half submerged in water. Iconographically he is represented as a human being with a canopy of hoods similar to the nāga figures of Kuśān and later arts. On a pillar, now in Allahabad Museum in the central medallion is a banyan tree below which is the five hooded Muchulinda Nāgarāja, (Plate : CVII-A), as shown by the epigraph. Muchulinda is said to have protected the Buddha during a storm. The story is depicted at Sanchi, Amarāvati and Nāgarjunikondā stūpas also. The Nāga king Cakravāka is carved on the corner pillar of the South Gate.<sup>57</sup>

## • (iv) Apsarās

A fourth class of semi-divine beings shown in the sculpture is that of Apsarās engaged in dance and music.<sup>58</sup> At Bharhut four of them are depicted.<sup>59</sup>

## b. Human Beings

## (i) Royal Persons

In the sculpture we find the representation of the famous Pūnyasāla erected by Prasenajit—the king of Kōśala in the city of Śrāvastu for the use of Buddha. It is a two storeyed building the lower part of which is an open pillared hall for the establishment of the Buddhist Dharma-cakra, the upper storey being the Pūnyasāla itself furnished with two gateways and a railing.<sup>60</sup> In scenes from Vessantara's (Plate : XX-A) life, the prince is always shown accompanied by an attendant carrying the waterpot. The king used to pour the water on the hands of the recipients of his gifts according to the religious tradition.<sup>61</sup>

## (ii) Religious Persons

The sculptures include figures of Ascetics (Plate: XX-A; LXXIII-A) wearing matted locks and bark garments; fire altars point out that ascetics were fire worshippers. One of them shows a great Vedic teacher with his pupils receiving instructions in vedic recitation. These figures show that the sculptors were quite competent to depict religious mendicants in their traditional garb and atmosphere of an Āśrama.<sup>62</sup>

## c. Animals

So far as animal depiction is concerned two kind of animals both natural and fabulous are shown. The motif of the fabulous animals include winged lion, and horse as well as griffin. At Bharhut we find a fish-tailed elephant and crocodile having a fish tail as well as a winged horse.<sup>63</sup> The head of the fish tailed makara occupied the ends of the architrave beams in early Indian art.<sup>64</sup> The makara motif occurs in the art of the Śunga period roughly from the middle of the 2nd cent. B.C.<sup>65</sup> We find fourteen quadrupeds, six kinds of birds, snake, crocodile, tortoise, lizard and frog. The quadrupeds include the lion, elephant, horse, rhinoceros, wild goat, bull, deer, buck, wolf, monkey, cat, dog, sheep, hare and a squirrel. The birds comprise the cock, parrot, peacock, goose, wild duck and quail.<sup>66</sup> The toraṇa lintel placed on two lion

capital pillars belongs to 1st cent B.C.<sup>67</sup> A cross bar of the railing carved on both sides with the figure of a richly caparisoned elephant and mounted by two riders. It belongs to 2nd cent. B.C.<sup>68</sup> In the portrayal of animal life the artists exhibit such an intimate knowledge of types and habits of the various jungle beasts that, as Fergusson remarks, "Some animals such as elephants, deer and monkeys are better represented there than in any sculpture in any part of the world."<sup>69</sup>

#### d. Humour Scenes

Bharhut sculptures are unique in depicting humorous scenes showing actions of monkeys in contact with men and elephants. A scene inside a circular medallion shows a giant Yakṣha as the principal figure in the composition seated on a low backed chair and wearing a huge turban and ornaments. With the help of a gigantic forceps pulled by an elephant the monkeys plucked the hair from inside the nostrils of the Mahā Yakṣha (Plate : LXXII-B). Two other scenes represent the capture of a wild elephant by monkeys who lead him along in a triumphal procession.<sup>70</sup>

Another scene shows a huge sea-monster with widely opened mouth in the act of swallowing a boat with its crew of three men (Plate : LXVII-B). The picture of the boat with its zig-zag cut long planks, dowel joints, the oars and rudder is interesting.<sup>71</sup>

#### e. Sculptural Scenes in Bas-Reliefs

Except at Bharhut, the greater part of the sculpture seems to be secular or decorative rather than religious. At Bharhut the most important Buddhist sculptures are the numerous medallions illustrating Jātaka stories, each with an identifying inscription, reliefs illustrating historical episodes of Buddha's life (Plate : LXXIII-A, B).<sup>72</sup> The Jātaka reliefs at Bharhut are excellent pieces of condensed story telling, the representation of trees and landscapes full of interest and decorative beauty, the animals and human figures well understood.<sup>73</sup> An inscription of 2nd cent. B.C. on one of the pillars of Bharhut rail records that the rail was constructed by Śuṅgas, and a Brāhmi inscription below on each subject describes the iconography. The Bharhut rail is important in showing scenes from Buddha's life and the Jātakas precisely labelled and to be compared with text for corroboration. The uprights and cross bars of rail have lotuses and medallions carved with scenes from Jātakas and Buddha's life.<sup>74</sup>

##### (i) Scenes from Buddha's Life

Scenes from the Buddha's life including his nativity—illustrated by the lotus, bull, elephant or by a pair of elephants spraying water from the jar held in their trunks etc. with Māyā Devī, mother of the Buddha<sup>75</sup> (Plate : XXXII-A) Buddhas flight from palace—represented by his horse riderless; his enlightenment—by Bodhi tree; the preaching of Sermon—suggested by a wheel; and his *Mahāparinirvāṇa*—symbolised by the stūpa are depicted.<sup>1</sup>

##### (ii) Miscellaneous Scenes

There are several scenes depicting the social environment of the period. On a toraṇa lintel placed on two lion capital pillars belonging to 1st cent B.C.; the front side contains a procession to visit some sacred place, in which men riding on horseback, elephant and chariots and others walking on foot participate. On the other side is represented a stūpa to which winged *Suparnas*—half bird and half men, and Kinnaras holding garland Vases and lotuses are offering worship.<sup>76</sup> One fragment shows a merchant with a wagon near which are seated two unyoked bullocks. Another fragment contains numerous male and female figures engaged



in dance and music.<sup>77</sup> One will find here men, women, ascetics and traders attired and bejewelled according to their station in life and engaged with dignity in their particular callings. There is no battle theme or a scene of conflict and suffering. But there are festival events in abundance revealing a healthy indulgence in the pleasures of the material life. The landscapes show trees and forests, lakes and rivers and a large number of animals both real and fabulous.<sup>78</sup> A cross bar fragment depicts a beautiful lady in dialogue with a young male within a full blown lotus rosette.<sup>79</sup> Among the fragments of the Bharhut rail now housed in Allahabad museum, there is a pillar with a scene of acrobats performing feats which is a mirror of the life of the day.<sup>80</sup>

### f. Objects of Worship

At Bharhut there is no trace of image worship but we find veneration of the stūpa, Dharma Cakra, Bodhi vriksha, *caranpaduka*, turban and the triratna symbol.<sup>81</sup> It is important to note here that upto this period the master is never represented in human forms, but only by symbols of which Caitya trees (frag. no. 1516), umbrella, feet and wheel (frag. no. 438) are most usual. In the Jataka scenes, the future Buddha is also represented.<sup>82</sup>

The worship of the tree was also of equal popularity. At Bharhut the tree cult was accepted in the context of the Bodhitree which indicates the acceptance of the ancient tradition of tree worship.<sup>83</sup>

As part of the tree worship, we have a series of panels showing worship of the following Bodhi trees of the six Buddhas:

**Pīpal:** Known as the Bodhi tree of the Gautama Buddha. The Bodhi is worshipped by royal persons, common citizens, elephants, nagas etc.<sup>84</sup> A special form of temple is connected with the Bodhi tree, and consists of a gallery, supported by pillars, encircling the tree. A large number of reliefs illustrate such temples. The best known example is the relief at Bharhut. There are others at Sāncī, Mathurā and Amarāvati. All are of one type. All have galleries with barrel vaulted roofs and caitya windows of the usual type with the single exception of the Mathurā example in Boston, which represents a square structure supported only by four pillars.<sup>85</sup>

**Banyan tree:** In several scenes it is depicted specially where a group of elephants are paying homage to this tree.<sup>86</sup> Patali tree is depicted in full flowering state.<sup>87</sup> Other trees of worship were Śāla, Śiri śa and Udumbara.

It may be added here that the women in garden sports are shown standing under various flowering trees specially Śāla and Aśoka. These are depicted at Bharhut and continued in the railings of later times.<sup>88</sup> Particular reference may be made to a mango tree with naturalistic leaves.<sup>89</sup>

### g. Decorative Motifs

There is an abundance of flowers and creepers covered with remarkable delicacy.<sup>90</sup> The railing of the Bharhut Stūpa was decorated with numerous motifs including lotus medallions with many sepals, petals treated in varying forms and combinations. One stone fragment depicts a full blown lotus and feet marks of an elephant alongwith a human figure.<sup>91</sup> The meandering creeper is another essential element of decoration. Ornaments shown hanging from boughs like earrings, necklaces, girdles, anklets etc. (Plate : XX-A), which are represented in several shapes, costly textiles like scarves and sārīs; wines bottled in jars of jack fruit and also mango shaped pendant containers for the lac dye to paint the feet.<sup>92</sup> The coping shows

a meandering creeper, Kalpavalli, issuing from the mouth of a celestial elephant with scenes of Jātakas in the meanders. In these the variety of garments, jewellery, items of toilet and wine cups recall Kalidās's wish fulfilling tree-Kalpavrikṣha. A hand of a vanadevatā issuing from a tree to offer food and drink reminds Kalidāsa's Vanadevatā's gift of garments and jewels to Śakuntalā.<sup>93</sup> The literary accounts attest that the four kinds of female decorations comprised clothes, ornaments, flowery garlands and unguents all of which were bestowed on them by heavenly trees.<sup>94</sup>

There is only one example of a geometrical pattern amongst all the numerous sculptured medallions at Bharhut. But even in the apparently simple pattern the guiding feature is the Swastika, or mystic cross, each of which meets one of the extended arms of another cross.<sup>95</sup> One sculpture is noteworthy because the lower part of the male figurine wearing dhoti has a belt with trident motif which is a peculiar feature.<sup>96</sup>

## 5. SCULPTURES AT SĀNCĪ

Like Bharhut, the stūpas at Sāncī are also encircled by processional paths and are enclosed by plain stone railings, pierced by four carved gateways. Iconographically the toranas of eastern gateway are superb.<sup>97</sup> One of the gates according to an inscription on it, in early Brāhmī, was executed by ivory carvers of Vidiśā.<sup>98</sup>

### (a) Stūpa—1

The sculptures here can be divided into two classes:

- (i) Scenes of elaborate composition which differ on all the four gateways and,
- (ii) Simple decorative designs or symbolic objects and figures repeated several times.<sup>99</sup>

Each gateway consists of two square pillars crowned by a set of four lions, elephants or pot-bellied dwarfs. These figures support a super structure composed of three curved architraves, whose ends are spirally rolled. Between the architraves, there are three carved uprights, separated by four square blocks. The open-space between them is occupied by a variety of figures in round.<sup>100</sup>

The projected ends of the lowest architraves were supported by Yakṣhi or Śalabhanjika image. The space in between the ends of the architraves were also occupied by similar but smaller figures. On the scrolls lion or elephant riders were standing. At the centre of the top architrave there was a dharmacakra flanked by flywhisk bearer Yakṣhas and triratnas. The bottom side of the lowest architrave is decorated with lotuses.<sup>101</sup>

The entire surface of the gateways and pillars are covered by sculptures in bas reliefs (Plates : XVIII-B; XIX-B; XXV-B; LXXIV-A, B; CIII-B; CVI-A; CXIV-A; CXV-A; CXVII-A; CXXII-A, B). They present a picture of the religious and daily life of the period, a clear idea of buildings, costumes, utensils, ornaments, armaments of the period. Surprisingly there is no representation of the Buddha.<sup>102</sup>

### (i) Scenes depicted on Gateways

Scenes depicted on the gateways of Sāncī can be divided into five groups according to the subjects represented in them.<sup>103</sup>

#### i.-a Scenes from Jātakas

Jātakas are the stories of Buddha's previous births. In comparison to Bharhut,

## i-c Scenes relating Manushi Buddhas

The symbolic representation of six immediate predecessors of Buddha along with him either in group or alone. They have been represented either by stūpas or by trees. Each Manushi Buddha had a different tree. These include —

- (a) Trees of Manushi Buddhas
- (b) Stūpas of Manushi Buddhas
- (c) Other scenes relating Manushi Buddhas
- (d) Trees of individual future Buddhas.

## i-d Events in the subsequent History of Buddhism

These include about seven scenes in the later history of Buddhism including —

- (a) Buddhas worship in jungle by animals
- (b) Aśokas visit to Bodhi tree
- (c) Stūpa of Rāma Grām
- (d) Siege of Kuṣinagar
- (e) Transport of the relics
- (f) Dedication of stūpa containing Relics by Mallas
- (g) Foreigner's worship of stūpa.

## i-e Miscellaneous Scenes and Decorations

There are scenes depicting men and women busy in pleasures and sports. Real and fabulous animals, beautiful floral patterns are other motifs for decorative panels. There are varieties of meandering creepers or *Kalpavallī* producing jewels, ornaments, clothes and various other items of luxury.<sup>106</sup>

## b. Stūpa II

The sculptural decorations of stūpa II, Śāncī consist of medallions carved on the uprights of the interior and more complicated rectangular panels emphasising the posts of the actual entrances. The subjects of the medallions are generally restricted to a single figure or a motif set off by realistic or decorative foliate forms, such as the wheels and the tree to typify moments from the life of the Buddha, or animals and birds intended to evoke the stories of his former incarnations.<sup>107</sup>

Decorations of the Ground Railing: The inner and outer faces of the upright pillars were carved with decorative reliefs.<sup>108</sup> The subjects shown on the half and full rosettes of the pillars were organised on the basis of the prevailing folk cults. There are lotus and its many creeper in infinite forms. The lotus is carved in the form of full blown flowers, buds and leaves.<sup>109</sup> We also find pūrṇakumbha motif covered over with red and blue lotuses.

Śalabhanjikā : In ancient railings there were generally sixteen in one quadrant as actually found at Bharhut, making a total of sixty-four in the complete circular railing with twenty more for the reentrant portion. Female figure in the pose was shown as holding the branch of an Aśoka tree with her left hand and standing in a graceful attitude. Śrī Lakṣmī, Śrī Devī, Gaja Lakṣmī or Lakṣmī with two elephants or two lions with a human couple also standing on two lotuses. Śrī Lakṣmī on lotus, Lakṣmī with lotuses, with two attendants and another woman standing between the door, with two attendants holding chatra and chāmara.<sup>110</sup> Lotus bunch, elephant with lotuses, lotus bunch from the jaws of a Makara having a Yakṣha in the

on the basis of sculptural carvings they represent a late stage of Śunga art.<sup>119</sup> The sculptures are in relief but carved deeply with more rounded contours than at Bharhut—almost in three quarters profile.<sup>120</sup> Thematically these sculptures can broadly be divided into following groups:

a. Decorative motifs—which includes freezes and rosettes of the lotus flower on the copings and the uprights respectively marking it as the lotus palisade.<sup>121</sup> At one place a railing pillar depicts a two storeyed edifice (Plate : LXXXVIII-A).

b. The representation of mythical, fabulous and heraldic animal figurines such as winged lion, winged horse, winged elephant, fish tailed human being, bull, ram, goat, makara etc. Among noteworthy carvings are a figure riding on a fish tailed elephant and another riding on a lion headed fish tailed alligator on one of the pillars.<sup>122</sup>

c. Human heads: heads of both male and female carved within medallions are realistic in treatment,<sup>123</sup> and executed actually to represent the likeness of some of the donors of the sanctuary.<sup>124</sup>

d. Secular themes: among these come varieties of mithuna motifs such as one depicting a newly wedded bride (*navavadhū*) slipping away bashfully as the lover holds her by the hem of her garment and another, a lover helping his beloved to climb a branch to pluck the flowers.<sup>125</sup>

e. Jātaka stories: As at Bharhut and Sāncī, here too a few themes from Jātakas have been carved out.<sup>126</sup> Besides Jātakas, a *vajrasana* has also been found, now in Mahābodhi temple. It has hamsas all along its border alternating with flowers. It belongs to about c. 3rd cent. B.C.

f. Mythological scenes: Bodhgaya provides some good examples of iconography for example in one of the pillars the Sun God (Sūrya) has been depicted in a chariot drawn by four horses<sup>127</sup> (Plate : XCVI-B). To this group also belongs a standing Yakṣī. It is beautifully carved. Her hair is beautifully set in two frontal locks and she wears a high turban or cap on her head (Plate : XX-B).

g. Buddhist stories: The artist here too has repeated through the technical skill the story of Jetavana purchase which shows definitely an advance stage of art but lacks the exuberance of spirit as at Bharhut.<sup>128</sup>

All these carvings amply prove that the art at Bodhgaya is certainly more elegant and orderly than at Bharhut. The images here suggest free movement and prouder gait and there is a more fleshy and softer modelling of the form.<sup>129</sup>

## 7. RAILING IMAGES

The railings—whether surrounding a stūpa, tree or any other structure were both plain and carved. These railings particularly its pillars were tastefully decorated with a variety of themes depicting scenes from daily life as well as those related with Buddhism and the jātaka stories. The front and the rear sides of the pillars generally have three carved medallions and two half medallions are on each end. Lotus is the most common motif. Other motifs are bunch of flowers, honeysuckle, stūpa, *makara* and animals.<sup>130</sup>

The cross bars, irrespective of their shape and size are carved with medallions containing various motifs, commonest being the lotus. Other motifs are *Vrikṣha Caityas*,<sup>131</sup> bowl (?) on a pedestal, winged conch with oozing coins, foliated leaves, honey suckle, Śrīvatsa, hamsa and animals,<sup>132</sup> fabulous animals.<sup>133</sup>

The coping stones are usually carved with strings of bells or bud shaped pendants. Stylized wavy bands, creeper with flowers, honey suckles and animals are the other favourite motifs.<sup>134</sup>

One upright post from Pataliputra<sup>135</sup> bears central bosses or medallions containing animals like lion with a smaller animal, possibly its cub, and a dog or lion faced seamonster. Other pillars from Pataliputra<sup>136</sup> bear carved human figures. On one of them an amorous couple is shown under a tree and another are depicted a couple as prisoners tied by a rope. In another rail specimen each post is adorned with three rosettes, the upper and lower representing various forms of the lotus flower, and the central one bears an image or a group scene. The central medallion on another railing pillar represents a man going up hill with a horse headed by a female (*Kinnara*) who is carrying a child.<sup>137</sup> A different post bears the figure of a seated female holding a long bag like object in her lap.<sup>138</sup> Fragment of a large post depicts on one side, a balcony, the uplifted hand a female with raised hand grasping a tree and on the other side is a prince surmounted by an umbrella.<sup>139</sup> A carved post bears on its two opposite sides, the life size figure of a female resembling the *Yakshinis* in Bharhut railing. Here the tree appears that of the jackfruits. Its sides are gracefully decorated with clusters of plaintain and mango fruits.<sup>140</sup>

One of the cross bars from Pataliputra<sup>141</sup> is square in shape. In one of its medallion a scene from Jataka has been depicted. A sage with a seven headed snake canopy is standing under a tree with his right hand uplifted and behind him seems a tripod. At his side are two spouted jars and a bird sits on a bell shaped structure.

A railing cross bar of 2nd century B.C. from Mathura<sup>142</sup> shows a king on elephant. The elephant is decorated with bell behind his ear and a decorated cloth on its back to sit. The driver (*Mahawat*) is holding a goad (*ankusa*).

The fragment of a coping stone from Pataliputra<sup>143</sup> represents in its upper mouldings a row of bells and beads as if tied from post to post and in its freeze is sculptured a very crude tree followed by a group of three monks separated by some object from two birds.

Another coping stone of a railing<sup>144</sup> shows rows of bells, palmette, lotus, and bull. Bull is beautifully carved. It belongs to c. 1st cent. B.C.

## 8. MISCELLANEOUS SCULPTURES

Secular images though are rare in Maurya period but those available show a high degree of craftsmanship. One interesting piece of art is from Sarnath<sup>145</sup> representing a grieving woman sitting in front of a lamp with her head on her knees clasped with hands. It appears to be a spandril (The space between the curve of an arch and the enclosing mouldings). Another fragmentary piece of a lady from Sarnath<sup>146</sup> belongs to Mauryan period. It wears three stringed girdle, bangles in the arms both of plain and beaded type. Another piece from Bhitā,<sup>147</sup> represents a woman reclining with a man fanning and apparently massaging her limbs.

Sarnath sculptures also consist of broken male heads. They are of moderate dimensions. As suggested by Coomaraswamy they may be parts of portrait figures, presumably of donors. They are characterised by the type of headdress, mostly a fillet with a bay wreath or sometimes a mural crown.<sup>148</sup> A worthmenting male head from Sarnath<sup>149</sup> has prominent moustaches hanging downwards with curved ends. Its hair appear to be shoulder cut. From the same place and of the same period is a turbaned head, which depicts characteristic features of c. 2nd cent. B.C.<sup>150</sup> art tradition.

Similar to Sarnath examples are a life size head from Bhitā and two fragmentary heads from Mathura.<sup>151</sup>

Besides these pieces, a large number of sculptural pieces have been found from various

sites. Some of them bear typical Mauryan polish for example polished stone fragments were found from Masaon,<sup>152</sup> Noh<sup>153</sup> and Pataliputra.<sup>154</sup> Forepart of a lion figure was found at Mathura.<sup>155</sup> Head of a lion in red sandstone having flat nose, wide eyes, prominent pupils, protruding tongue and manes was found from Atranjikhhera<sup>156</sup> belonging to Śunga period. A winged griffin in white sandstone was found during excavation from Pataliputra.<sup>157</sup> An interesting art piece is a steatite plaque which has been found from Rājgir.<sup>158</sup> It is in the form of a panel depicting three scenes in typical Hellenistic tradition. It probably belongs to the transitional phase towards the end of the period of study.

### 9. RING STONES

There are small, round pieces of stone carved very finely so as to resemble jeweller's art. Although the carving is very minute, it is absolutely perfect in delineation, proportion and composition. Some of them belong to c. 3rd cent. B.C. while others have been dated between 2nd and 1st cent. B.C. A number of motifs depicted on them go into the makeup of Indian art.<sup>159</sup>

These ring stones have generally been chiselled out of soft stones like soapstone, or steatite, slate, shale and alabaster.

They are generally called ring stones even though many of them do not have the central hole. Broadly they fall into three groups:<sup>160</sup>

- (i) The common type is represented by a fairly thick and large piece of stone. It is circular in plan and planoconvex in section. It has a prominent hole in the centre which looks like 'U' with sloping sides. Its base is plain and flat.
- (ii) The second type is different from the above. In this type the hole is very large and perfectly straight thus resembling the thick wheel of a cart.
- (iii) The third type of ring stones called discs or diskstones are generally smaller and without any hole. The obverse is beautifully carved and the reverse is flat and generally plain.

Ring stones have been reported from a large number of sites during the course of excavation. Among the important sites are Purāna Qila,<sup>161</sup> Ruper,<sup>162</sup> Taxila,<sup>163</sup> Kauśāmbi,<sup>164</sup> Rājghat<sup>165</sup> etc.

From Purāna Qila, a fragment of a delicately sculptured stone ring has been found. It is associated with mother goddess and belongs to Maurya period.<sup>166</sup> The Ruper<sup>167</sup> specimen exhibits fine workmanship and bears Mauryan polish on it. The ring stone is minutely carved with figures and motifs associated with the cult of goddess of fertility. Similar stones have been found from Taxila, Patnā, Basarh and other places. Two carved stone rings found at Bhirmound, Taxila<sup>168</sup> are of very early Maurya date. These are not heavier than many of those earrings represented in early reliefs.

These are elaborately decorated in concentric circles. Of them, one circle consists of a series of elephants, another with a kind of palmette ornament alternating with mountain (?) and figures probably representing the mother goddess. These zones have been separated by narrow bands of cable and cross and bead ornament. The diameter of the two stone rings are 4 inches and  $2\frac{3}{8}$  inches respectively.

A similar disc, 2 and 3 quarter inches in diameter was found from Sankisa<sup>169</sup> by Cunningham. In this piece the outer most circle is decorated with radiating bud forms like those of a modern Campakali necklace, the next zone repeats the same form on a smaller

scale, while the inner zone has alternating representations of fan palms, the nude earth goddess (?) and the taurine symbols. The centre is sunk but not perforated.

A stone disc piece from Kauśāmbī<sup>170</sup> is in Bhārat Kalā Bhawan. It belongs to c. 3rd cent. B.C. showing a female (mother goddess ?) in between foliage and flowers.

In Allahabad Museum<sup>171</sup> mor nos. 28 and 25 are stone disc fragments showing mother goddess (?) and palmtrees alternating with each other and mor no. 22 is a disc fragment with sphinx in dark brown soapstone. No. 23 has a central hole. The innermost circle is having mother-goddesses (?) and outer circles are decorated with geometrical designs. No. 26 is also a disc fragment with central hole and bird motifs. All these specimens belong to c. 3rd cent. B.C.

From Rājghāt<sup>172</sup> a ring stone fragment belonging to c. 3rd cent. B.C. was found. It has house lizards in the outer circle and mother goddesses (?) in the innercircle. Inscribed ring stones (Plate: LXXV-B) have also been found from Rājghāt.

A piece of ring stone in State Museum,<sup>173</sup> Lucknow also shows similar representations. It belongs to Śuṅga period. It has a hole in the centre. The outer circle is decorated with reptiles, while mother goddesses and trees alternating with each other in inner circle.

## B. Bone and Ivory Objects

On stylistic ground a few elephants have been assigned to the Mauryan Period<sup>174</sup> while flat figurines with conical head, cut in ivory and bone have been found at Mathurā, Prabhās, Kauśāmbī and Nāgdā. All belong to the 2nd-1st cent. B.C.<sup>175</sup>

From Campā<sup>176</sup> and Kayatha<sup>177</sup> female figurines of ivory have been found. Both of them belong to Maurya period and may be identified as mother goddesses. From Kayatha<sup>178</sup> a carved ivory bottle has also been reported.

From Atranjikerā,<sup>179</sup> a bird with sharply pointed beak, flaring tail and pin hole like tiny eyes has been found. It has a socket at the base, in place of legs to fix a rod or stick.

## C. Metal Objects

A few metallic art pieces have been reported from a few sites during the course of excavation.

From Tripurī<sup>180</sup> figure of a bull in copper has been reported, while from Atranjikerā<sup>181</sup> two moulded frogs of copper (Plate : LXXVI-B) identical in shape, perhaps from same mould have been reported. They are in leaping position having bulging eyes, splayed out hind legs and raised neck. They were probably meant for decorative or ritualistic purpose. The female copper figurine from Vaiśālī<sup>182</sup> is noteworthy for its fine workmanship.

One specimen of iron depicting a serpent has been found from Kauśāmbī.<sup>183</sup> It is 12.1 cms. long.

## D. Terracottas

Clay is an easily available material for artistic expression and, therefore, a large number of terracotta objects have been found from various levels of excavations. Noteworthy specimens belonging to our period of study come from Ahichchhatrā,<sup>184</sup> Authā,<sup>185</sup> Apsad,<sup>186</sup> Ayodhyā,<sup>187</sup> Bateśwara,<sup>188</sup> Buxar,<sup>189</sup> Balirājgadh,<sup>190</sup> Āirand,<sup>191</sup> Candahadih,<sup>192</sup> Campā,<sup>193</sup> Eran,<sup>194</sup> Hulas,<sup>195</sup> Hulaskherā,<sup>196</sup> Jodhpura,<sup>197</sup> Jājmau,<sup>198</sup> Katragarh,<sup>199</sup> Kauśāmbī,<sup>200</sup> Kolhua,<sup>201</sup> Mathurā,<sup>202</sup> Masaon,<sup>203</sup> Moradhvaj,<sup>204</sup> Malhar,<sup>205</sup> Noh,<sup>206</sup> Oriup,<sup>207</sup> Piprahwā and Ganwāriā,<sup>208</sup> Puranā Qila,<sup>209</sup> Pātaliputra,<sup>210</sup> Pariar,<sup>211</sup> Rājgir,<sup>212</sup> Prahlādpur,<sup>213</sup> Rājghāt,<sup>214</sup> Sonapur,<sup>215</sup> Śrāvastī,<sup>216</sup> Sugh,<sup>217</sup>

Sarai-Mohana,<sup>218</sup> Takiapur,<sup>219</sup> Ujjain,<sup>220</sup> Vaiśālī,<sup>221</sup> Manwan,<sup>222</sup> Atranjikerā,<sup>223</sup> Hastinapur,<sup>224</sup> and Tripurī,<sup>225</sup> etc.

On the basis of the available materials it can be deduced that the modellers during Mauryan period, took proper care in preparing the clay for terracotta modelling. The clay was well kneaded and was freed from gritty substance and turned into smooth and fine grained substance.<sup>226</sup>

The figurines were often coated with slip. At Mathurā the colour of the slip is black, which easily rubs off.<sup>227</sup> At other sites, generally they are in various shades of red colour with or without slip, as on female heads from Buxar it is red.<sup>228</sup> At Rajghāt,<sup>229</sup> except for one crude grey specimen of an elephant, all the terracotta animal figurines were in red colour. Light grey terracotta objects, however, have been found at Patnā, Kauśāmbī and Ayodhyā. Objects burnt to a rich black colour come from Patnā and Basarh and dark grey terracottas occur sporadically at Buxar and Patnā.<sup>230</sup> Obviously the colour of the slip depended on the temperatures of the firing.<sup>231</sup>

Stamping, punch circlets, applique and incision were devices to decorate them.<sup>232</sup>

A damaged bull head has been beautified by grey stripes on a shining black background. The application of double shades on terracotta objects seems to be popular during Maurya period.<sup>233</sup> Since the colours were applied before firing, they have retained their originality till now. From Maurya period, figurines with orange dots on black surface have also been found. From Kauśāmbī some terracotta figurines bearing patches of white colour have also been found. Post firing painting perhaps was absent.

Most of the specimens belonging to the Mauryan period have been fired under controlled heat giving shades either of red or biscuit-red. Some were baked under reduced temperature or in a closed kiln. Mathurā was atleast one site, where figurines were baked in reduced temperature to turn their surface black or grey.<sup>234</sup>

The clay figurines were made by hand in early stages. Gradually moulds or a combination of both the techniques was used in later stages.

Solid handmade toys of blackish or reddish clay representing beautiful human figures and curious dwarfs with a variety of strange faces, or animals like trumpeting elephants and seated monkeys with human bodies, belong to the Mauryan period.<sup>235</sup> Now the figures started coming up in round. The faces were pressed in moulds. Oval eyes had indications of pupil. They wore heavy large round earrings, conspicuous naval, and a girdle concealing the mount of venus. There are male heads with beard, indicated by indentations and a turban with a protuberance or crest on the left side.<sup>236</sup>

A unique feature of the Śunga period was the introduction of plaques passed out completely from moulds leaving the back part completely plain and flat. These have been found almost in entire Gangetic Valley particularly in Eastern and Central India. This shows that these regions would have been the centre of artistic efforts in terracotta during this age.<sup>237</sup>

Several moulds have been found from many places during excavations, like Katragarh,<sup>238</sup> Vaiśālī,<sup>239</sup> Campā,<sup>240</sup> Śrāvastī,<sup>241</sup> Kauśāmbī,<sup>242</sup> etc. Some of them have been displayed in Mathurā, Lucknow and Delhi Museums.

From most of the places the moulds were of terracotta but from sites like Campā and Śrāvastī stone moulds have also been reported. The Śrāvastī<sup>243</sup> mould is made of soapstone.

The Katragarh<sup>244</sup> and Vaiśālī<sup>245</sup> moulds are of human faces. Similar moulds with male faces have been displayed in Mathurā Museum.<sup>246</sup> Out of those one shows a male head wearing rich head dress embossed with wreaths and lotus rosettes and other shows a male face



with curly hair (Plate : LXXVII). Unlike these moulds, from Kauśāmbi<sup>247</sup> moulds of ornaments and fruits, namely for producing impression of grapes<sup>248</sup> have been found. Another mould from Kauśāmbi<sup>249</sup> is that of a terracotta plaque showing a couple proceeding with their bag and baggage. All these moulds from Kauśāmbi belong to Śunga period. A mould in red clay<sup>250</sup> showing a lady in standing posture with elaborate head dress is displayed in the National Museum.

Excellent examples of plaques have been excavated at Kauśāmbi.<sup>251</sup> Marshall had unearthed a number of terracotta figurines from Bhitā, Dist. Allahabad, belonging to Śunga period.<sup>252</sup>

Of other examples are the male and female figurines—Dāmpatis (married couples) and Mithunas (lover & beloved) and also dwarfs and dwarfish males with conspicuous genitals.<sup>253</sup>

The terracotta figurines of our period have been discussed below under two separate heads; (1) animal figurines and (2) human figurines.

### I. ANIMAL FIGURINES

Terracotta animal figurines of the period are generally of grey colour. They are probably of the same clay and treated with the same type of black lustrous slip which has been applied on the N.B.P. Ware and their working technique can also be linked with that of the pottery. Among them a few are bordered by a bright red slip but the core is grey, while others comparatively cruder, are made of red clay. In some cases they are treated with red wash, probably to cover their coarse gritty surface underneath. The decoration has either been made by applique designs or punch circlets or incised lines.<sup>254</sup>

The terracotta animal figurines which can be definitely placed in this age are very few in number. It appears that each famous centre specialized in local plastic types of its own and in addition also produced some common types.

Although terracotta animals have been found from almost every excavated site, it would be worth while to refer to some important animals reported from some important sites. Atranjikhera,<sup>255</sup> animal figurines included bull, horse, elephant, ram, goat, tiger, lion, monkey and a unicorn (?). Mostly they are well modelled and treated with a wash or slip. These have been decorated with stamped designs including *cakras*, notches leaves, circlets and pinholes. From Vaiśālī,<sup>256</sup> two hundred and ninety nine hand modelled specimens were found. Among favourite animals were goat, horse and elephant. From Mathurā,<sup>257</sup> sheep, elephant, monkey, snake and ram were found. These were decorated with punched, stamped and notched circlets. From Pataliputra,<sup>258</sup> Ram, horse, elephant, leopard and monkey were reported. These bear punched, stamped or notched decorations.

The terracotta animal figurines from Prahādupur,<sup>259</sup> consist of elephant, bull, horse, ram, buffalo, serpent, crocodile, sea-lion and a few more.

#### a. Bull

Bull appears to be one of the favourite animals. It has been reported from various sites including Atranjikhera,<sup>260</sup> Bateśwara,<sup>261</sup> Balirajgarh,<sup>262</sup> Jodhpura,<sup>263</sup> Katragarh,<sup>264</sup> Mathurā,<sup>265</sup> Ahichchhatra<sup>266</sup> Noh,<sup>267</sup> Rajghat,<sup>268</sup> Sonapur,<sup>269</sup> and Prahādupur.<sup>270</sup> Generally they have prominent hump, and short drooping or elongated faces. They have pierced eyes within lozenges, sometimes they are incised ovals. From Ahichchhatra,<sup>271</sup> the humped bull are in black clay. They have stamped *chakra* between horns. Nostrils have been made by piercing holes on both sides of mouth probably for cord. The bull from Sonapur<sup>272</sup> has a medallion on its strap. A plaque showing a man riding on a bull has been found from Kauśāmbi,<sup>273</sup> now in Allahabad

Museum. It shows a bull with a long tail. On its back is seated a man. A garland of hanging bells and flowers hangs around its neck.

#### b. Horse

Horses came next in popularity. These have been found both with and without bridle. They have been found from Bateśwara,<sup>274</sup> Buxar,<sup>275</sup> Atranjikhera,<sup>276</sup> Vaiśali,<sup>277</sup> Katragari,<sup>278</sup> Noh,<sup>279</sup> Piprahwa and Ganwariā,<sup>280</sup> Pataliputra,<sup>281</sup> Rājghāt,<sup>282</sup> and Prahlādpur.<sup>283</sup> From Buxar<sup>284</sup> only upper portion of a horse was found which is now housed in the National Museum. Bridle is present and decorations are made by stamping rosettes. Vaiśali<sup>285</sup> specimens are interesting for having wings. Eyes have been made by punch circlets. Plume is made by slightly raised ridge. Plume and front of neck are decorated by punch circlets. Pataliputra<sup>286</sup> horse is also with bridle. Its head and body are well modelled and rest of the body is too small and crude. Rājghāt<sup>287</sup> specimen, now in State Museum, Lucknow is decorated with stamped wheel and punched circlets. From Prahlādpur,<sup>288</sup> a broken horse in dark grey has been found. A saddle is decorated with small rectangular cuts made by pressing a sharp instrument over an applied band of clay just below the neck. It is treated with a black slip. From Śrāvastu,<sup>289</sup> one specimen of a horse has lozenge shaped eyes. An elaborately decorated bridle is shown in applique, the different straps of which come out from a central medallion bearing a stamped 'cakra'. From Atranjikhera<sup>290</sup> some of the horses are exquisitely moulded having bold high neck, applique ears, circular eyes, slit ears and pierced nostrils.

#### c. Elephants

The elephants of the period were exquisitely decorated and have been found from almost all excavated sites including Ahichchhatra,<sup>291</sup> Bateśwara,<sup>292</sup> Atranjikhera,<sup>293</sup> Hastinapur,<sup>294</sup> Vaiśali,<sup>295</sup> Śrāvastu,<sup>296</sup> Kauśāmbi,<sup>297</sup> Mathurā,<sup>298</sup> Masaon,<sup>299</sup> Noh,<sup>300</sup> Pataliputra,<sup>301</sup> Prahlādpur,<sup>302</sup> Śrāvastu.<sup>303</sup> From Ahichchhatra<sup>304</sup> and Mathurā<sup>305</sup> quite many elephant figurines have been found. They are profusely decorated with markings on the body of parallel lines or punched circlets. They are variously depicted. Some are in running posture, others are with a rider on their back<sup>306</sup> and others trumpeting with an uplifted trunk and wild eyes. Some had lozenge shaped eyes and enormous tusks.<sup>307</sup> From Mathurā,<sup>308</sup> an elephant has been found with painted lustrous surface in NBPW tradition. Mostly they are in grey colour. From Masaon<sup>309</sup> an elephant has been found decorated with a row of impressed chakras over the back and a row of leaves over the trunks with eyes formed by pierced holes with lozenges. It belongs to Maurya period. From Atranjikhera<sup>310</sup> elephants are at par with those found elsewhere. However, one of them is exquisitely modelled. It is decorated with incised circlets. Its forehead and sheath is also decorated in the same fashion and an applique incised band passes over the head running down the ears. It is in grey colour having traces of blackslip.

At Hastinapur<sup>311</sup> considerable progress is reflected in the art of clay modelling and elephant being the most favourite animal. The favourite device to decorate the body of elephant was to cover it with circlets which were either punched, stamped, pierced or notched. Chakras and leaves were stamped on the body and the temples of the elephants. Similar elephant figurines have been reported from Śrāvastu.<sup>312</sup> At Bulandibāgh, Pataliputra<sup>313</sup> an elephant has been found with traces of two men riding on its back. From Prahlādpur,<sup>313</sup> the trunk of an elephant is found in grey clay. Its body is treated in two slips, the red and black over it. All these examples show that this was a very popular and fascinating animal. It has royal importance as well as religious sanctity.

From Kauśāmbi two examples are of special attention, in one case which is a plaque<sup>314</sup>

a herd of elephants has been depicted. Another<sup>315</sup> one belonging to the first cent B.C., an elephant is placed on a wheeled cart. On the back of the animal there is an ornamental cover with which hanging bells are attached. A woman is sitting on the *howdā* placed on the back of elephant. One lady is standing on her left holding a basket and another on her right holding the flywhisk.

#### d. Ram

Specimens of this animal were found at Atranjikhhera,<sup>316</sup> Katragarh,<sup>317</sup> Mathura,<sup>318</sup> Pataliputra,<sup>319</sup> Balirajgarh.<sup>320</sup> These are exquisitely formed. Out of these two are worth mentioning. The specimen from Atranjikhhera<sup>321</sup> is very well modelled. Its horns are stylistically curved downwards. It has a tapering face with prominent snout and a small tail turned on the right hind leg. It is treated with a red slip. The specimen from Mathura is a toy ram with a decorated body in grey.

#### e. Monkey

Among other animals, monkey is found from quite a number of sites like Atranjikhhera,<sup>322</sup> Kolhua,<sup>323</sup> Mathura<sup>324</sup> and Pataliputra.<sup>325</sup> The Pataliputra and Atranjikhhera figurines are in seated posture. The Atranjikhhera<sup>326</sup> specimen is 9.5 cms in height. It bears a bright red slip. Mouth and teeth are very well indicated by incised lines. From Mathura two groups of monkeys have been found. The first group<sup>327</sup> of monkeys belongs to Maurya period and they are in funny moods. The second group<sup>328</sup> of monkeys have only three legs. These might probably be serving religious purpose. These are usually in red colour only sometimes grey and belong to Śunga period. They have dotted lines on forehead and on mouth.

#### f. Other Animals

Sheep, goat, leopard, lizard, fox, lion, tiger, buffalo, sealion, camel, unicorn (?) are among other animals. Head of a sheep has been reported from Mathura.<sup>329</sup> Goats have been found at Atranjikhhera,<sup>330</sup> Vaiśālī,<sup>331</sup> Masaon,<sup>332</sup> Leopard and lizard have been reported from Pataliputra.<sup>333</sup> A crocodile has also been reported from Prahladpur.<sup>334</sup> A terracotta fox has been found at Campa,<sup>335</sup> lion, tiger and unicorn (?) have been reported from Atranjikhhera.<sup>336</sup> A theriomorphic representation of a lion has been reported from Śrāvastu.<sup>337</sup> It is winged and humped. Its mane is indicated by incised grooves on the neck portion and wings on the slightly raised spot above the hind legs. Buffalo and sealion have been reported from Prahladpur.<sup>338</sup>

According to Marshall<sup>339</sup> camel head has been found from Bhitā. It is in round.

#### g. Birds

The terracotta figurines representing birds are also very few in number. At Lauriya Nandangarh<sup>340</sup> Majumdar has discovered a beautiful example representing duck. At Patnā<sup>341</sup> three geese in float pose were found. At Atranjikhhera,<sup>342</sup> four specimens of different types were found. All were provided with wheels. One of them is a 7.5 cms long kite having finned tail. Unfortunately its tail is missing. Near the neck, it is decorated with prominent pin holes and a groove and is treated with a red slip. The other specimen is 6.7 cms: long figurine of a duck. Its features and tail are decorated with grooves. Its mouth and eyes are prominently indicated. The third one is a 8.6 cms long peacock bird. It is decorated with yellow stripes. The fourth specimen is like second one and is of a duck being 8.1 cms in length. It has slightly bulging body. Its neck is decorated with parallel incised grooves. As already said, all the

specimens have transverse holes for fixing wheels. Sonapur<sup>343</sup> and Katragarh<sup>344</sup> also yielded some specimens of birds.

## 2. HUMAN FIGURINES

On the basis of their craftsmanship, Maurya and Śunga terracottas can easily be distinguished. Maurya<sup>345</sup> terracottas may be placed under two groups:

- (1) Hand modelled
- (2) Partly hand modelled and partly moulded.

While Śunga<sup>346</sup> terracottas are completely moulded plaques, those of the Maurya period are modelled and are round giving three dimensional effect.

Among the human figurines those of female dominate. On the basis of their facial features and other related details these figurines can be identified as mother goddesses.<sup>347</sup> There are other figurines too representing the secular life of the people. Patna,<sup>348</sup> Prahādpur,<sup>349</sup> Atranjikhera,<sup>350</sup> Vaiśali,<sup>351</sup> Buxar,<sup>352</sup> Jajmau,<sup>353</sup> Katragarh,<sup>354</sup> Ahichchhatra,<sup>355</sup> Noh,<sup>356</sup> Kauśāmbi,<sup>357</sup> Hastināpur,<sup>358</sup> Campā,<sup>359</sup> Purānā Qila,<sup>360</sup> Śrāvastu,<sup>361</sup> etc. have yielded a large number of figurines. Some of them depict foreign ethnic group including those of the Iranians, with whom, the Indians came in contact.

### a. Archaic Figurines

The earliest hand modelled female figurines are represented by those having bird like facial appearance, having short stumpy stretched hands. They exhibit prominent breasts and deep navels and while their waists are narrow and slender, hips are abnormally bulky and the legs are toeless stumpy. These are adorned with different types of necklaces and girdles having punch marks.<sup>362</sup>

The archaic figurines from Ahichchhatra<sup>363</sup> are in grey colour, like those of Mathurā. It appears that these might have been imported from Mathurā as these are rare here. However, these have been made skilfully in the absence of moulds. They have applique and punched decorations. Sometimes their collar, necklace and girdle are also applique. Applied eyes are altogether absent, as in case of Mathurā. They have been found in Stratum VIII and belong to c. 300 B.C. to c. 200 B.C. Their important features being bird or animal like face, prominent breasts, broad hip, triple rosetted head dress, collar, necklace and conspicuous girdle. They do not indicate nudity although no drapery is shown.<sup>364</sup> Similar figurines from Mathurā<sup>365</sup> are all stray finds. Three of them have been displayed in National Museum,<sup>366</sup> New Delhi and a good number in Mathurā Archaeological Museum.

Patnā figurines have been represented by hand modelled female figurines of different sizes generally found broken. In some cases they depict nude woman in sitting posture. In one case she is holding a baby in her arms. Similar specimen have been found at Buxar. In all the cases heads are of primitive type.<sup>367</sup>

At Prahādpur,<sup>368</sup> the human figurines all female, are invariably crude and of extremely coarse clay mixed with husk and sand in profusion. Their firing is imperfect. Their surface is neither painted nor treated with any type of dressing. In one case it is treated with a dark red chocolate slip over the head. A bust of a female figurine shows very crude facial features. Its forehead is not shown and hair start right from eyes which are graceful. There are long, applied, cashewnut shaped ears extending almost upto the chin. Upper portion of the nose is missing and the mouth is indicated only by a line. Its details include a necklace round the

neck, two crescent symbols attached just below the two ears, shoulders decorated with an armlet (?). The breasts are applique.

From Atranjikhhera<sup>369</sup> hand-made anthropomorphous figures have been found. They represent the initial stage of modelling. They are perhaps votive. Basically they are hand made crudely manufactured ill baked figurines. Sometimes they are decorated with incised grooves. A better specimen shows a female bust with bird like face and stumped hands, slit eyes encircled by small pin holes. Neck is marked by parallel grooves, a vertical row of pinholes below the chest, grooved border. Another human head is with short forehead, bulging eyes within incised outlines, pierced nostrils, yawning mouth, protruding pointed chin, short morticed neck and pinched out ears.

From Vaiśālī also, a number of hand made figurines have been found. In one case,<sup>370</sup> eyes are shown by impressed circlets within incised lozenges, mouth by cutslit. Coiffure and nostrils are shown by vertical lineal incisions and three lock of hair hanging behind by applique. There are marks of punched circlets on necklace, garland, girdle and at the neck and waist portions. It is in red colour. Another<sup>371</sup> one is the torso of a terracotta female. Necklace is decorated with punched circlets and anklets, bracelets, scarf and girdle with lineal incisions and impressed Sun symbols. Naval and tips of applied breasts were indicated by punched circlets. It is in red colour. The third specimen is<sup>372</sup> a female figurine whose eyes are shown by punch circlets within lozenges, naval by circlet mark. Ear lobes, untied hair hanging on the back, scarf and girdle are shown applique. Ear lobes are marked with Sun symbols, scarf with horizontal incisions throughout and circlet marks in the centre and girdle with incised horizontal herringbone design. It is also in red colour. From Śrāvastī,<sup>373</sup> only one specimen of mother goddess figurine has been found which is hand modelled. The characteristic features are an exaggerated hip portion adorned with an ornament and a disproportionately thin waist. The same type from Ahichchhatrā is ascribable to *circa* 300-200 B.C.

From Rajghat,<sup>374</sup> crudely hand modelled mother goddesses with featureless conical face and horizontally projected short, stump like hands having a slight upward tilt. In all the cases, the lower body was found broken. A specimen has featureless face, short stump arms diagonally projected from the shoulders, developed breasts and the lower body made into a flattened pedestal with the short stump legs extending to the front into an arch. Another specimen has partly hand modelled and partly incised facial features.<sup>375</sup> Two specimens of star shaped figurines<sup>376</sup> allied to the mother goddess were also found here. It was a star shaped miniature figure with a lenticular head and four conical projections for the head, arms and legs. The face was indicated by pinched up nose ridge. The legs and arms were marked by single lengthwise incisions. It was well baked with red slip.

Unlike other sites at Kauśāmbī<sup>377</sup> we find a type of archaic clay figurines, unknown at other sites of the Gangetic Valley. Their characteristic features are applique incised eyes formed by fixing oval pallets of clay to the face and incising them from nose to ear with a sharp instrument; they have either no chin or a rudimentary type; an applique mouth or no mouth. Kala<sup>378</sup> has described two figurines of this type. One of them in light grey colour is a bust having applique incised eyes. In this specimen no chin, mouth or breast is indicated. It has an applied and incised flat torque on the neck. The other one is a female figure with a long face with applique incised eyes; long ear and applied necklace, both being composed of a single strip of clay.

Another archaic female figurine called Sardheri type<sup>379</sup> has certain characteristics not seen elsewhere and is localized in a particular zone.

These figurines have two or three applied rosettes decorated with incised lines on the head, applied and incised eyes, a thick neck and often a vertical sash between the breasts. The lower part of the body is stump like and divided by a grooved line to render the legs. Two examples of this type are exhibited in State Museum,<sup>380</sup> Lucknow. They are female heads, with applied headdress depicting rosettes, legs and ornaments.

From some sites a few male figurines are also found which are hand modelled. From Patnā,<sup>381</sup> one small shaven head of a male has been found. From Atranjikerā,<sup>382</sup> a male figure probably shown seated as indicated by a projection attached to the hip, pinched up tanon in place of neck for fixing the head. It is decorated with a row of four stamped cakras on the chest. From Vaiśālī,<sup>383</sup> an archaic form of a terracotta male head has been found. It shows foreign ethnic features, having protruded eyebrows and nose. Eyes are shown by incised pallets within applied circlets. It is in greyish red.

#### *b. Partly hand modelled and partly moulded figurines*

The figurines under this category have moulded faces attached to hand modelled bodies. Such types have been found from numerous sites including Mathurā,<sup>384</sup> Ahichchhatrā,<sup>385</sup> Kauśāmbī<sup>386</sup> and Prahādpur.<sup>387</sup> There are examples where two moulds have been used to show them in round. Examples of this technique are rare at Mathura but not uncommon at Buxar and Kumrahar.<sup>388</sup> After affixing the moulded face on the body, the moulders at Mathurā, used to apply stamped or unstamped rosettes with long strips of clay on the figure (Plate : XXIII-B; XXX-A, B; LXXX-B) to decorate as well as to provide more strength to the attached head. Although the modellers at Patnā and Buxar showed an interest in applied decorations, they did not depict the rosette decorations (Plates: XXI-A; XXVIII-A, B; XXIX-A, B). At Mathurā, only small moulded heads have been found while at Kumrahar and Bulandībhāgh bigger heads have been found. The modellers of both the places applied finishing touches after the object was taken out of the mould.<sup>389</sup>

The use of moulds, however, appeared for the first time in late Mauryan or early Śunga period in about third-second century B.C. clay figurines from Patnā, Bulandībhāgh, Kumrahar, Buxar, etc. all in Bihar. The most remarkable are those female figurine found during the excavation of Pātaliputra. Their main features are the elaborate headdress (Plate: XXI-A; XXVIII-A, B; XXIX-A, B) and pannier skirt, spread out on either side like wings<sup>390</sup> (Plate: XXI-B; XXIX-B). Another remarkable specimen from Patnā Museum (Plate : XXIX-B) is an entirely hand modelled female in which head is moulded. Applique decorations have been attached to it including a pair of falling locks on the protuberance of the head-dress, surmounted by a full blown lotus, another disc or lotus in the centre of the two projections, a cylindrical ornament in the right ear and a disc in the left, a bangle on the forearm, a necklace round the neck and a festooned girdle with pendant bells on the waist. By her pose she appears to be a dancer.<sup>391</sup>

The two detached heads from Bulandībhāgh are noteworthy. Out of them one is with bicornate headdress. The other head is of a boy (Plate: LXXXI-A) with pleasant and radiant expression.<sup>392</sup>

The hand modelled figurines with moulded faces from Mathurā show similarity in the style of applique ornamentation and hair dressing with the archaic grey figurines from the same site. They are distinguished by the following features:<sup>393</sup>

- (i) Moulded head and hand modelled body,
- (ii) Applique decoration,

- (iii) Indication of ornaments by punched circlets,
- (iv) Standing pose with sundered dwarfish legs, or sometimes seated clumsily in "European" style with pendant legs and
- (v) Lenticular shaped eyes with pupils adding charm to the face.

These figurines have two types of faces, oval with strange loveliness and the other one broad and round, very near to the reliefs of Bharhut and Mathurā. These figurines are produced completely in the round.<sup>394</sup> No part of the face or body is applied separately. The figurines with oval face (Plates: LXXX-A, B) have pointed arms without indication of hands inclined downwards but not touching the hips. The legs also taper but without any indication of feet. The headdress consists of three or four rosettes, two over the ears and one in the centre over the head. A few figurines have a band of three leaves with vertical linear incisions fastened over the head.<sup>395</sup> Some figurines have wig-like head-dress, stamped with rosettes (Plate: LXXXI-B). Lotus designs are also attached to some of these headdresses. Another type of headdress had two high smooth horn like voluted ends. In some cases of this bicornate type of headdress, rosettes are also attached.<sup>396</sup>

Figurines with round face (Plates: XXIII-B; XXX-A, B) have headdress with four rosettes. Mostly their hair is done into lateral masses and fastened with beaded strings. Sometimes a topknot is also found stamped with rosettes or some other symbols.<sup>397</sup>

In some specimens head and the background is impressed with floral patterns, sometimes even including the earrings, pressed in a mould and then fixed on modelled body.<sup>398</sup> The arms in such figurines look natural. One specimen of this type has been reported from Mathurā and one from Ahichchhatra.<sup>399</sup> The Ahichchhatra figurine (1½ inch high) is fragmentary bust of a female figurine. Its head with its headdress has been pressed out of a mould and joined to a handmade body. The headdress is in trifoil pattern and streamers are falling on each side of the body. The face is oval with half open eyes. Heavy round Kundala in ears.<sup>400</sup> A large number of Mathurā female figurines with moulded head fixed on hand modelled body have been displayed in State Museum, Lucknow.<sup>401</sup> All these figurines are female, but a few male figurines are also known from Mathurā. Their body is modelled with the crudeness of the primitive figurines but the face is moulded, alongwith the headgear. There are only a few complete figurines. Mostly heads are found. Out of them two complete specimens are noteworthy. One is a standing figure with his hair tied in form of a knot on its left side (Plate: LXXXII-B). He is wearing an upper and a lower garment. His hands are on the waist. From posture and features he appears to be a persian noble man.<sup>402</sup> The second is in sitting posture (Plate: LXXXIII-A). A band is tied at the junction of the forehead and hair. A cloth is hanging on his left shoulder. Lower garment is only upto knees. Some object is kept in his lap. He has a beard marked by incisions and wearing round earrings.<sup>403</sup> Both belong to Śunga period. One of the male heads shows a very much decorated head gear probably embedded with beads (Plate: LXXXIII-B). He is wearing large round earrings and has a beard.<sup>404</sup> The other head<sup>405</sup> wears a bicornate headdress. His beard and eyebrow are marked by indentation marks and incision marks respectively. According to Agrawala, the facial features of these figurines present foreign affinity and probably represent the heads of Iranian people.<sup>406</sup> From Atranjikhera,<sup>407</sup> a hand modelled body with moulded face of a man has been found. It is 8.2 cms high. The head is adorned by a discoid turban with folds at the back in applique. The partially broken, out-stretched hands appear to be holding reins. Legs are not indicated, instead the lower part of the body is curved in order to seat the figure on the back of some animal. Terracotta figurines from Ahichchhatra<sup>408</sup> appear to have been brought from Mathurā.

The colour is mostly grey. It appears that before firing the figurines were covered with a thin slip containing flux to produce shining glaze during heating. The black colour is due to their being smoke fired in close oven. But these features are rare. One specimen each of this type are in Mathurā and Indian Museum, respectively. The specimen in Indian Museum<sup>409</sup> wears a lotus stalk in the earlobes with a big flower, a torque, a short necklace, a pendant necklace passing on the breasts and shoulders, a tight waist band with hanging fish symbol and a double girdle, the upper one decorated with applique *cakra* symbol. No moulded specimen of this type have been found at Buxar.<sup>410</sup> Here we find new types of figurines (Plates: XXVIII-A, B; XXIX-A) having their heads made of a round or somewhat oval lump of clay with incised eyes, a slit mouth and pointed nose with raised ridge. Instead of any indication for head-dress, they have three holes on the head placed in a row. A few such heads have also been found from Kauśāmbī (Plate: XXVI-B) and Rājghāt (Plate: XXV-A), perhaps brought from elsewhere. Later they developed into two distinct types. In one type, the face mould was used on a thick clay plaque and ear ornaments were made by stamping circular designs on the plaque at their proper place.<sup>411</sup>

The other type of figurines had a modelled body and moulded face on a round lump of clay with applied ornaments and head dress. These figurines show the decorations of the head-dress and ornaments by stamping floral or petal designs.

Some terracotta figurines from Buxar are displayed in the National Museum, New Delhi.<sup>412</sup> From Kauśāmbī, both Buxar and Pataliputra type figurines have been found. Three female busts of Buxar-type from here are noteworthy. One in Allahabad museum<sup>413</sup> has a round face and drooping eyelids, prominent nose, short lips and decorative applied plaques on either side of the face. She wears an applique torque stamped with leaf motif and her head dress is also in similar fashion divided into sections and decorated with punched stars and dots.<sup>414</sup> Another specimen in the same museum<sup>415</sup> has beaded strings along her hair line. There is a hole and a star shaped ornament on the right side of her face. Other features resemble with that of the first one. The third specimen<sup>416</sup> has a round smiling face. She has raised eyebrows and drooping eyelids, beaded chains hanging on the right side of the head. Her head dress is slanting decorated with dots and star symbols. She is wearing big earring in her left ear, and a torque in the neck.

A Pataliputra type standing female was also found from Kauśāmbī.<sup>417</sup> Its face was mould made. Her head dress has two high rolls parted in the middle by an applied circular crest. She wears a torque, disc shaped earrings, heavy bracelets and a long skirt or sari held up by a waist band. Other hand made terracotta figurines with moulded heads have been reported from Jajmau,<sup>418</sup> Katragarh,<sup>419</sup> Vaiśālī<sup>420</sup> and Bhitā.<sup>421</sup>

From Vaiśālī<sup>422</sup> comes a female bust in which necklace, earlobes and prominent breasts are shown applique and nipples and nostrils by pinned holes. While the necklace had vertical nail impressions, the head ornament is applique. Eyes are indicated by incised lozenges, mouth by cut slit and hair by vertical incisions on head.

### c. Moulded Figurines

A typical Śunga style in clay figurines consists of stamped thin plaques in low relief with a frontal pose. Such figurines come from different sites like Sankisa,<sup>424</sup> Rājghāt,<sup>425</sup> Kauśāmbī,<sup>426</sup> Mūsanagar,<sup>427</sup> Atranjikhera,<sup>428</sup> Ahichchhatra,<sup>429</sup> Sugh,<sup>430</sup> Mathurā,<sup>431</sup> Masaon,<sup>432</sup> Noh,<sup>433</sup> Ganwaria,<sup>434</sup> Purāna Qila,<sup>435</sup> Śrāvasu,<sup>436</sup> Candraketurgh,<sup>437</sup> Hastināpur,<sup>438</sup> Vaiśālī,<sup>439</sup> Campā<sup>440</sup> and Bhitā.<sup>441</sup>



Several moulded plaques from Rajghat,<sup>442</sup> generally broken include beautiful female figures wearing ornaments and drapery. Some plaques<sup>443</sup> show female figure standing in strict frontal posture. She wears a spiralled high head-dress and many ornaments. Among ornaments are large circular ear plaques, a torque, a three stringed beaded girdle, heavy anklets, armllets and bangles. Her left hand is on the hip and the right hand touching her right earring. The plaque has beaded border. Another fragmentary plaque<sup>444</sup> shows lower portion of a standing female with well modelled details of limbs. One votive female figure from Kannauj (Plate: XXIII-A) is also in a frontal pose. It has two holes on its head.

Terracotta female figurines from Candraketugarh<sup>445</sup> falling under this group are known as Lachchhagir type. They belong to c. 1st cent. B.C. Her hair is parted in the middle by a floral ornament. She wears a saree, round earrings, a long necklace, bracelets and a belt with two round ornaments, one placed above the other.

From Śrāvastu<sup>446</sup> a female head shows lenticular eyes, protruding lower lip, prominent check bones meeting in a pointed chin. The arched eyebrows, eyelids etc. were indicated by incised grooves after taking out the figure from a single mould.

The specimen from Sankisa<sup>447</sup> wears saree in a peculiar style. A piece of cloth is hanging in front. A two stranded necklace (hāra) of big beads is worn in the neck, which comes upto naval and bangles are in the hands.

The specimen from Musanagar<sup>448</sup> is noteworthy because she has been shown wearing *Yagyopavita*, a unique feature. This lady in standing posture is wearing an elaborate hair style with fillets.

From Atranjikhera, all the moulded plaques depict female figures in standing posture. One plaque<sup>449</sup> has the figure whose neck and head are missing. The left hand in akimbo is wearing four heavy bracelets on the wrist and the indistinct right hand is probably holding the drapery. Breasts are chipped off, but traces of a long necklace hanging down below the girdled waist is present. The second<sup>450</sup> plaque depicts a complete female. Her fingers of right hand in akimbo touch the right breast, left hand hanging down touches the left thigh. Two squarish pendantive ornaments hang on the chest attached to a string and beaded ear-ornaments in triangular shape rest on the shoulders. She is wearing a heavy coiffure decorated by a pearl string (*ekavali*). Lower part of the body is draped in a Sari having artistic folds and loose knot in front. The third specimen<sup>451</sup> is depicting a female with smiling facial expression and realistic proportions of the body. She is artistically dressed up and her hair locks are tied in a raised bun. Ornaments include rounded *Kundalas*, torque and necklace. The plaques from Campa,<sup>452</sup> Hastinapur<sup>453</sup> and Purānā Qila<sup>454</sup> depict females with neatly arranged coiffure. Out of two specimens from Hastinapur one wears elaborate headdress, ear ornaments and necklaces. Her garments are profuse and flowing. The other specimen, a fragmentary piece, has a thin waist, broad hips and short legs.

From Jhūst,<sup>455</sup> a female bust has been found. Her hair is arranged in two high rolls parted in the middle by a projection decorated with tiny circlets and held up by fillets. An ornamental band from the headdress hangs on either side of the head, and a double beaded chain from either side forms an angle on the forehead. She wears a round earring in her right ear and a disc shaped one in the left. Another specimen from Jhūst<sup>456</sup> has a smiling face.

A large number of specimens which fall under this group have been reported from Kauśāmbi.<sup>457</sup> (Plate: XXII-B). The faces of these figurines may be long, oval or round with prominent forehead, eyes, nose, chin and lips, sometimes eyebrows and pupils are also clearly shown. They have heavy round breasts. Hair dress varies. In one case hair is arranged in

braids, decorated at the forehead with double chain of pearls terminating in two circular buttons. The braid may fall at the back and can be shown by oblique incisions. In other case the bicornate headdress is arranged in two volutes, the right one slightly tilted. In one case the hair is arranged in a knot at the back and tied with a piece of cloth. In one case she wears a turban slightly tilted to left. Its tiers are represented by horizontal grooves and attached together by a piece of garment shown by two parallel incisions cutting through the tiers.

Earrings appear to be hanging type, circular in shape sometimes with tassel. They wear different types of necklaces. In one case it is hanging type, in another the beaded necklace is with a pendant, in still another case a sophisticated necklace has a central boss enclosed within two reversed triratna like objects. In another case a number of tassels are suspended from the necklace. All wear heavy drapery. One female figurine from *Kośāmbī*<sup>458</sup> is with smiling oval face and prominent forehead. It has incised eyes, well shaped nose, mouth with depression around parted lips, chin marked by a cut, prominent round breasts, hair arranged in braids, decorated at the forehead with double chains of pearls. Folds of heavy drapery are shown by parallel oblique grooves. Dull red coloured clay is coated with lime. Another specimen<sup>459</sup> from the same site is wearing channavira type of an ornament.

One specimen from *Kausāmbī* now in State Museum, Lucknow<sup>460</sup> shows lower portion of a lady. She wears a four stranded girdle with strings hanging from it. She also wears ornaments in feet. Some specimens are displayed in the National Museum.<sup>461</sup>

From *Mathurā*,<sup>462</sup> a female bust belonging to c. 2nd cent. B.C. has been found (Plate: XXVII-B). Her hair is arranged in two high rolls parted in the middle by a round plaque decorated with top dots. A fillet decorated with wheels and *nāgamudrā* symbols hangs on either side of her face. Behind her head, there is a braid indicated by a long strip of clay. She has a cut hair and a double beaded chain along the hair ridge. Another moulded terracotta female figure from the same site is almost complete except for her feet. She has parted her hair in the centre and arranged them in seven braids. Her face is very charming with all the details shown very carefully (Plate: XXVII-A).

Head of a female, found at *Vaiśālī*<sup>463</sup> is adorned with a hairdress having a knot over forehead shown by incision. Her eyes are indicated by punched circlets within incised lozenges, mouth by cut slit, earlobes by appliques with punched circlets over them. One bust of a defaced terracotta female is profusely ornamented with applied earlobes and necklace. She is adorned with a beautifully applied headdress hanging down to shoulders with an upward protruded knot at the centre of the head and the remaining hair hanging untied on the back and an applied scarf having marks of vertical lineal incisions. Breasts and hands are also applique. It is in red colour with a wash.

From *Kauśāmbī*,<sup>464</sup> a few male terracotta figurines have been found. Among them, one is an ithiphalic dwarf yakṣha. He is squatting with his knees folded in front (Plate: LXXXII-A). He has an unusually large head. His face is wrinkled. His hair is combed back. He wears plain bracelets and anklets and is holding some indeterminate object in his hands. A terracotta male bust from *Kauśāmbī*,<sup>465</sup> now in Allahabad Museum, belonging to c. 1st cent B.C., has an oval face. The turban is arranged in a projecting ball in front, supported by beaded chains. Hair is visible only behind the head. He wears earrings, bracelets, a girdle and a torque containing round beads and wears a decorated and striped lower garment. In his left hand, he is holding a shield (?), which is similar to those held by devotees depicted on a *Sāncī* relief. This figurine also has a transverse hole in the head for holding the thread. These were

probably used as pendants or amulets. For evidence, a female figure from Sancti now in Los Angeles Museum U.S.A. has a necklace ornamented with two tiny female figurines.

A foreign noble man from Kauśāmbī<sup>466</sup> with Greek features wears tunic type dress, and a torque similar to one like those found from Mathura. The only difference being in their making. The Mathura specimen are partly hand made and partly moulded while one from Kauśāmbī is a moulded one.

There are some plaques which give an idea of depth also. In one plaque from Bhūta<sup>467</sup> two human figures are shown in a balcony in the upper part, one man facing right in the right field, one four horsed chariot driven by a man and one man sitting in its middle end, one woman rushing out of the hut and one woman drawing water from the pool in the left field in the middle plain and one peacock and two deer in the lower plain.

There are some other plaques which show men and women holding some object in their hands. In Lucknow Museum<sup>468</sup> there is a plaque showing a standing lady holding some unidentifiable object in her hand. She is wearing three stranded beaded girdle, necklace garland and disc type big ear-ornament. One end of her upper garment is hanging on the right side. *Dhoti* is noteworthy for its folds. Its left side is with transverse folds and right side with vertical folds. Another plaque is from Atranjikhēra<sup>469</sup> where a standing female figure is holding a triple beaded girdle on her waist by her left hand. The right hand is raised vertically upto the shoulder and holding an unidentifiable object in the folded palm.

A number of figurines with parrot or a bird have been reported from various places. From Kauśāmbī<sup>470</sup> one plaque belonging to c. 1st cent. B.C., depicts a standing female. She wears a Sari with striated pattern but knee part is uncovered. She is holding mango fruits in her right hand and a parrot in the left. On a rail pillar from Mathura, the same scene is depicted. A similar theme in terracotta is reported from Hastinapur by Lal and another one from the same place and in the same museum,<sup>471</sup> holds a parrot in her upraised right hand. The face as well as other features of the woman are reminiscent of Bharhūci type. One plaque from Kauśāmbī, now in National Museum,<sup>472</sup> shows a female in standing posture. Her lower garment probably a skirt, is only a little below the knees. She wears rings in her feet and her hair forming a central bun. She is holding a bird in her left hand and an unidentifiable object in the right. From Rajghat<sup>473</sup> a plaque (feet broken) shows a woman standing in frontal posture. She is wearing a bicornate head dress and discular earplaques in her ears. She wears a skirt (?). Her hands are placed on the hip. A parrot is shown perched on the left thigh. Another example is from Atranjikhēra.<sup>474</sup> It is a moulded plaque (height 5.3 cms.) depicting a standing female. Her trifoiled coiffure is tied on the forehead with pearl fringe. She wears round *Kundala* in one ear and a *dantapatra* in the other, a torque, a necklace of three strings and a pearl studded girdle of three strands. Her lower garment is indicated by folds hanging down the right side of the waist and held by the right hand and left hand folded probably holding a bird (?). Another moulded plaque from Atranjikhēra,<sup>475</sup> also depicting a standing female is a damaged piece. Its neck and portion below the knees are missing. She is holding corn cobs (?) in the folded palm of the right hand, and the left hand is resting on the two stranded beaded girdle. Lower garment appears to be transparent and is supported by a *pataka* over the left leg. A similar but complete plaque has been found from Mathurā (Plate: XXII-A). Another terracotta plaque from Mathurā (Plate: LXXXIV-A) shows a standing female holding a palm leaf shaped fan in her right hand.

From Kauśāmbī two specimens of woman with attendant have been found. In one case,<sup>476</sup> which is painted red, the hair of the main figure is dressed in three rolls. Ornamental

side above the shoulder. The specimen of the National Museum<sup>510</sup> depicts a woman wearing a trefoil bun at the back and a three stranded girdle.

The above review amply denotes that the artists who made terracottas, tried to depict almost all aspects of contemporary, religious or secular life. It included specimens as toys, and for worship and those for decoration. Though the emphasis in the beginning was on religious items, it gradually embraced other fields to depict the social life. These items actually were the original visual source materials for understanding the then society. It depicts cult objects, dress and ornaments and social beliefs and many other themes. Above all they display the artistic taste of the period.

### NOTES & REFERENCES

1. A. K. Coomaraswamy, *op. cit.*, p. 16.
2. V. S. Agrawala, *op. cit.*, p. 57.
3. A. K. Coomaraswamy, *Introduction to Indian Art*, p. 26.
4. A. K. Coomaraswamy, *Ibid.*, p. 26.
5. *Ibid.*, p. 27.
6. S. K. Saraswati, *op. cit.*, p. 24.
7. V. S. Agrawal, *op. cit.*, p. 63.
8. B. Rowland, *op. cit.*, p. 65.
9. L. Bechofer, *Early Indian Sculpture*, p. 5.
10. V. S. Agrawala, *op. cit.*, p. 63.
11. *Ibid.*, p. 63.
12. *Ibid.*, p. 63.
13. S. K. Saraswati, *op. cit.*, p. 24.
14. V. S. Agrawala, *op. cit.*, p. 64.
15. *Ibid.*, p. 64.
16. *Ibid.*, pp. 63-64.
17. S. K. Saraswati, *op. cit.*, p. 25.
18. *Ibid.*
19. V. S. Agrawala, *op. cit.*, p. 64.
20. S. K. Saraswati, *op. cit.*, p. 28.
21. V. S. Agrawala, *op. cit.*, p. 64.
22. S. K. Saraswati, *op. cit.*, p. 28.
23. V. S. Agrawala, *op. cit.*, p. 64.
24. S. K. Saraswati, *op. cit.*, p. 29.
25. *Ibid.*
26. V. S. Agrawala, *op. cit.*, pp. 66-67.
27. S. K. Saraswati, *op. cit.*, p. 29.
28. V. S. Agrawala, *op. cit.*, pp. 66-67.
29. B. Rowland, *op. cit.*, p. 72; fig. 23.
30. State Museum, Lucknow; Information from R. C. Gaur.
31. S. K. Saraswati, *op. cit.*, p. 30.
32. N. R. Ray, *Mauryan and Post-Mauryan Art*, p. 27.
33. S. K. Saraswati, *op. cit.*, p. 27.
34. L. Bachhofer, *op. cit.*, pp. 6-7.
35. R. J. Mehta, *Masterpieces of Indian Sculptures*, pp. 2-3.
36. C. Siva Ram Murti, *op. cit.*, p. 17.
37. Marshall, *ASI-AR 1915-16*, p. 15.
38. S. K. Saraswati, *op. cit.*, p. 28.
39. *Ibid.*, p. 28.
40. V. S. Agrawala, *op. cit.*, pp. 87-88.
41. V. S. Agrawala, *Indian Art*, p. 110.
42. V. S. Agrawala, *op. cit.*, pp. 60-62.
43. S. K. Saraswati, *op. cit.*, p. 31.

44. Chintamani Kar, *Classical Indian Sculpture*, pp. 7-8.
45. *Ibid.*, p. 7.
46. V. S. Agrawala, *op. cit.*, pp. 87-88.
47. *Ibid.* in x.7.98. Cf.
48. A. K. Coomaraswamy, *op. cit.*, p. 27.
49. Chintamani Kar, *op. cit.*, pp. 7-8.
50. B. M. Barua, *Bharhut*.
51. V. S. Agrawala, *Indian Art*, p. 133.
52. *Ibid.*, p. 133.
53. *Ibid.*, p. 134.
54. Shanti Swarup, *5000 years of Arts and crafts in India and Pakistan*, p. 30.
55. V. S. Agrawala, *Indian Art*, p. 135.
56. V. S. Agrawala, *op. cit.*, p. 92.
57. *Ibid.*, *Indian Art*, p. 136.
58. *Ibid.*, p. 135.
59. *Ibid.*, p. 136.
60. *Ibid.*
61. C. Siva Ram Murti, *op. cit.*, p. 57.
62. V. S. Agrawala, *Indian Art*, p. 136.
63. *Ibid.*
64. V. S. Agrawala, *op. cit.*, p. 98.
65. *Ibid.*, p. 99.
66. V. S. Agrawala, *Indian Art*, p. 136.
67. *Ibid.*
68. V. S. Agrawala, *A handbook of the sculptures in the Curzon Museum of Archaeology, Mathura*, p. 14-15.
69. Shanti Swarup, *op. cit.*, p. 30 cf. F. Fergusson, *Indian and Eastern Architecture*, Vol. II, p. 36.
70. V. S. Agrawala, *Indian Art*, p. 137.
71. *Ibid.*
72. A. K. Coomaraswamy, *op. cit.*, p. 27.
73. *Ibid.*
74. C. Siva Rama Murti, *op. cit.*, pp. 21-22.
75. Shanti Swarup, *op. cit.*, p. 28.
76. V. S. Agrawala, *op. cit.*, p. 12.
77. *Ibid.*
78. Shanti Swarup, *op. cit.*, p. 30.
79. V. S. Agrawala, *op. cit.*, p. 12.
80. C. Siva Rama Murti, *op. cit.*, p. 26.
81. V. S. Agrawala, *Indian Art*, p. 137.
82. A. K. Coomaraswamy, *op. cit.*, p. 31.
83. V. S. Agrawala, *op. cit.*, p. 92.
84. V. S. Agrawala, *Indian Art*, pp. 138-139.
85. A. K. Coomaraswamy, *op. cit.*, p. 33.
86. V. S. Agrawala, *Indian Art*, p. 139.
87. *Ibid.*
88. *Ibid.*
89. 73.332 National Museum, New Delhi.
90. Shanti Swarup, *op. cit.*, p. 30.
91. No. 72.333, National Museum, New Delhi.
92. V. S. Agrawala, *op. cit.*, p. 83.
93. C. Siva Rama Murti, *op. cit.*, p. 22.
94. V. S. Agrawala, *Indian Art*, p. 145. cf. no. 75.424 (A Lady) National Museum, New Delhi.
95. A. Cunningham, *op. cit.*, p. 116.
96. No. 75.426, National Museum, New Delhi.
97. Shanti Swarup, *op. cit.*, p. 31.
98. A. Grunwedel, *Buddhist Art in India*.
99. V. S. Agrawala, *Indian Art*, p. 152.
100. Marshall and Foucher, *op. cit.*, p. 37.

101. D. Mitra, *Sanchi*, p. 19.
102. F. C. Maisey, *op. cit.*, p. 13.
103. D. Mitra, *op. cit.*, p. 23.
104. *Ibid.*, pp. 25-29.
105. *Ibid.*, p. 30.
106. *Ibid.*, p. 41-42.
107. B. Rowland, *op. cit.*, pp. 84-85.
108. V. S. Agrawala, *Indian Art*, p. 167.
109. *Ibid.*, p. 167.
110. *Ibid.*, p. 168.
111. *Ibid.*
112. *Ibid.*, p. 168-169.
113. *Ibid.*, p. 169.
114. *Ibid.*, p. 169.
115. *Ibid.*, p. 170.
116. *Ibid.*, p. 171.
117. R. J. Mehta, *op. cit.*, p. 6.
118. A. Grunwedel, *op. cit.*
119. Siva Rama Murti, *op. cit.*, p. 26.
120. R. J. Mehta, *op. cit.*, p. 6.
121. V. S. Agrawala, *Indian Art*, p. 173.
122. *Ibid.*, p. 173.
123. R. J. Mehta, *op. cit.*, p. 6.
124. *Ibid.*
125. C. Sivarama Murti, *op. cit.*, p. 26.
126. Shanti Swarup, *op. cit.*, p. 31.
127. C. Siva Ram Murti, *op. cit.*, p. 26.
128. *Ibid.*, p. 26.
129. Shanti Swarup, *op. cit.*, p. 310.
130. A. Ghosh, *op. cit.*, p. 58.
131. J 422, State Museum, Lucknow.
132. J 403, State Museum, Lucknow.
133. J 365 and J 427 State Museum, Lucknow.
134. A. Ghosh, *op. cit.*, p. 58.
135. L. A. Waddell, *Excavation at Pataliputra*, pp. 35-36.
136. *Ibid.*
137. *Ibid.*
138. *Ibid.*, pp. 36-37.
139. *Ibid.*
140. *Ibid.*, pp. 27-29.
141. *Ibid.*, p. 37.
142. 50.167, National Museum, New Delhi.
143. L. A. Waddell, *op. cit.*, pp. 36-37.
144. J-492, State Museum, Lucknow.
145. 60.474, National Museum, New Delhi, cf. A. K. Coomaraswamy, *op. cit.*, p. 19.
146. 47.25, National Museum, New Delhi.
147. A. K. Coomaraswamy, *op. cit.*, p. 20.
148. *Ibid.*, p. 19.
149. 59.527/1, National Museum, New Delhi.
150. 47.22, National Museum, New Delhi.
151. A. K. coomaraswamy, *op. cit.*, p. 20.
152. R. B. Narain, *IAR 1965-66*, p. 51.
153. R. C. Agrawala, *IAR 1963-64*, p. 29.
154. *ASI-AR 1912-13*, p. 77-81.
155. M. C. Joshi, *IAR 1976-77*, p. 54.
156. R. C. Gaur, *op. cit.*, p. 410.
157. L. A. Waddell, *op. cit.*, pp. 27-29.
158. *IAR 1962-63*, p. 5.

159. S. P. Gupta, *Roots of Indian Art*, p. 5.
160. *Ibid.*, pp. 54-55.
161. Cf. B. B. Lal, *IAR* 1970-71, pp. 8, 10.
162. Y. D. Sharma, *A.I.*, no. 9, pp. 123-126.
163. 59.534/3 National Museum, New Delhi, cf. A. K. Coomaraswamy, *op. cit.*, p. 20.
164. G. R. Sharma, *op. cit.*
165. 2/5205 Bharat Kala Bhawan cf. A. K. Narain and T. N. Roy, *op. cit.*
166. Cf. B. B. Lal, *IAR* 1970-71, pp. 8 and 10.
167. Y. D. Sharma, *A.I.*, No. 9, pp. 123-126, plate XLVIII B.
168. 59/534/3, National Museum, New Delhi, cf. A. K. Coomaraswamy, *op. cit.*, p. 20.
169. *Ibid.*
170. 2/20083, Bharat Kala Bhawan, Varanasi.
171. Mor nos. 22, 23, 25, 26 and 28, Allahabad Museum.
172. 2/5205, Bharat Kala Bhawan, Varanasi.
173. 82.188 State Museum, Lucknow.
174. S. P. Gupta, *op. cit.*, p. 5.
175. S. C. Kala, *Terracottas in the Allahabad Museum*, pp. 67-8.
176. Cf. B. P. Sinha, *IAR* 1971-72, p. 5, plate.x.
177. V. S. Vakankar, *IAR* 1964-65, p. 19.
178. *Ibid.*, *IAR* 1967-68, p. 25.
179. R. C. Gaur, *op. cit.*, p. 419.
180. K. D. Bajpai, *IAR* 1966-67, p. 18.
181. R. C. Gaur, *op. cit.*, pp. 445-447.
182. Sita Ram Roy, *IAR* 1961-62.
183. G. R. Sharma, *op. cit.*, pp. 55-56.
184. Cf. N. R. Banerjee, *IAR* 1963-64, p. 44.
185. Cf. K. M. Srivastava, *IAR* 1964-65, p. 34.
186. Cf. P. C. Prasad, *IAR* 1973-74, p. 10.
187. Cf. A. K. Narain, *IAR* 1969-70, p. 40.
188. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
189. Cf. B. P. Sinha, *IAR* 1965-66, p. 11.
190. Cf. Sita Ram Roy, *IAR* 1972-73, p. 7.
191. Cf. B. S. Verma, *IAR* 1962-63, p. 6.
192. *IAR* 1971-72, p. 15.
193. Cf. B. P. Sinha, *IAR* 1971-72, p. 5.
194. Cf. K. D. Bajpai, *IAR* 1961-62, p. 18.
195. Cf. K. N. Dixit, *IAR* 1978-79, p. 61.
196. Cf. R. C. Singh, *IAR* 1978-79, p. 74.
197. Cf. Vijay Kumar, *IAR* 1972-73, p. 30.
198. Cf. R. C. Singh, *IAR* 1976-77, p. 54.
199. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.
200. Cf. G. R. Sharma, *IAR* 1957-58, p. 48 cf. *op. cit.*
201. Cf. V. K. Misra, *IAR* 1976-77, p. 13.
202. Cf. Venkatramayya, *IAR* 1954-55, pp. 15-16; cf. H. Haertel, *IAR* 1966-67, p. 42; cf. B. K. Thapar, *IAR* 1975-76, pp. 53-55; cf. M. C. Joshi, *IAR* 1976-77, p. 54.
203. Cf. R. B. Narain, *IAR* 1965-66, p. 51.
204. *IAR* 1978-79, p. 74.
205. Cf. H. Haertel, *IAR* 1966-67, p. 42; cf. K. D. Bajpai, *IAR* 1974-75, p. 21.
206. Cf. V. Kumar, *IAR* 1965-66, p. 38.
207. Cf. B. P. Sinha, *IAR* 1966-67, p. 6.
208. Cf. K. M. Srivastava, *IAR* 1974-75, pp. 40-41.
209. Cf. B. B. Lal, *IAR* 1969-70, p. 4.
210. Cf. V. K. Misra, *IAR* 1955-56, p. 22; cf. V. H. Jackson, *JBORS* XIII, II, (June, 1927), p. 126-127.
211. Cf. B. B. Lal and K. N. Dixit, *IAR* 1978-79, p. 62.
212. Cf. Raghbir Singh, *IAR* 1974-75, p. 11.
213. A. K. Narain and T. N. Roy; *op. cit.*
214. Cf. A. K. Narain, *IAR* 1957-58, p. 50; *IAR* 1960-61, p. 37, cf. A. K. Narain and T. N. Roy, *op. cit.*, p. 28.

215. Cf. A. S. Altekar, *IAR* 1956-57, pp. 19-20; *IAR* 60-61, p. 5.
216. Cf. K. K. Sinha, *IAR* 1958-59, p. 50, cf. K. K. Sinha, *op. cit.*
217. Cf. B. Ch. Chhabra, *IAR* 1965-66, p. 36.
218. Cf. A. K. Narain, *IAR* 1967-68, p. 49.
219. Cf. T. N. Roy, *IAR* 1971-72, p. 49.
220. Cf. N. R. Banerjee, *IAR* 1955-56, p. 19.
221. Cf. Sita Ram Roy, *IAR* 61-62, cf. B. P. Sinha and Sita Ram Roy, *op. cit.*
222. *IAR* 1969-70, p. 44.
223. R. C. Gaur, *op. cit.*
224. Cf. B. B. Lal, *Ancient India* nos. 10 and 11.
225. Cf. K. D. Bajpai, *IAR* 1966-67, p. 18.
226. *Chhavi-2*; Rai Krishan Das felicitation, Vol., p. 272.
227. P. L. Gupta, *op. cit.*, p. 12.
228. *Chhavi-2*, p. 272, cf. P. L. Gupta, *Ibid.*, p. 13.
229. A. K. Narain and T. N. Roy, *op. cit.*, pp. 27-28.
230. P. L. Gupta, *op. cit.*, p. 13.
231. *Chhavi-2*; *op. cit.*, p. 272.
232. *Ibid.*
233. *Ibid.*
234. *Ibid.*
235. Shanti Swarup, *op. cit.*, p. 229.
236. V. S. Agrawala, *op. cit.*, p. 17.
237. C. C. Das Gupta, *op. cit.*, p. 145.
238. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.
239. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 153-167.
240. Cf. B. P. Sinha, *IAR* 1971-72, p. 5.
241. K. K. Sinha, *op. cit.*, pp. 72-73.
242. Nos. 78.14, 82.94, 82.95, 82.96, State Museum, Lucknow.
243. K. K. Sinha, *op. cit.*, pp. 72-73.
244. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.
245. B. P. Sinha and S. R. Roy, *op. cit.*, pp. 153-167.
246. Nos. 42-43-3045 and 36-2620, Mathura Museum.
247. Nos. 82.94, 82.95, 82.96, State Museum, Lucknow.
- 247a. No. 78.14, State Museum, Lucknow.
248. No. 70.40, National Museum, New Delhi.
249. No. 71.234, National Museum, New Delhi.
250. G. R. Sharma, *op. cit.*
251. Marshall, *Excavations at Bhita (ASISR, 1911-12)*, plate.xxii, no. 18, xxiii 17, 19, 20.22.29.31; (1915).
252. V. S. Agrawala, *op. cit.*, pp. 17-18.
253. A. K. Narain and T. N. Roy, *op. cit.*, p. 44; Two specimens from Prahladpur are painted with orange coloured dots over black lustrous surface.
254. R. C. Gaur, *op. cit.*, p. 366.
255. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 156-167.
256. Cf. H. Haertel, *IAR* 1966-67, p. 42; cf. Venkatramayya, *IAR* 1954-55, pp. 15-16; cf. M. C. Joshi, *IAR* 1976-77, p. 54; cf. no. 45.22 in State Museum, Lucknow and no. 48.3/5 in National Museum, New Delhi.
257. Cf. V. H. Jackson, *JBORS* xiii, pt.II, June 1927, pp. 126-127.
258. A. K. Narain and T. N. Roy, *op. cit.*, p. 44.
259. R. C. Gaur, *op. cit.*, p. 366, plate LXXX, LXXXI.
260. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
261. Cf. Sita Ram Roy, *IAR* 1972-73, p. 6.
262. Cf. Vijay Kumar, *IAR* 1972-73, p. 30.
263. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.
264. Cf. H. Haertel, *IAR* 1966-67, p. 42.
265. Ac. V.6/75 in National Museum, New Delhi and Nos. 56.517, 56.519 and 56.521 in State Museum, Lucknow.
266. Cf. Vijay Kumar, *IAR* 1966-67, p. 31.
267. No. 40.198 in State Museum, Lucknow.



268. Cf. A. S. Altekar, *IAR* 1956-57, pp. 19-20.
269. A. K. Narain and T. N. Roy, *op. cit.*, pp. 45-46.
270. Nos. 56.517, 56.519 and 56.521 in State Museum, Lucknow.
271. Cf. A. S. Altekar, *IAR* 1956-57, pp. 19-20.
272. S. C. Kala, *op. cit.*, p. 40.
273. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
274. No. 74.3 in National Museum, New Delhi.
275. R. C. Gaur, *op. cit.*, p. 366.
276. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 156-167.
277. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.
278. Cf. Vijay Kumar, *IAR* 1966-67, p. 31.
279. Cf. K. M. Srivastava, *IAR* 1974-75, pp. 40-41, plate xxxvii B.
280. Cf. V. H. Jackson, *JBORS* xiii, pt. II (June, 1927), pp. 126-127.
281. No. 49.28 in State Museum, Lucknow.
282. A. K. Narain and T. N. Roy, *op. cit.*, pp. 45-46.
283. No. 74.3 in National Museum, New Delhi.
284. B. P. Sinha and S. R. Roy, *op. cit.*, pp. 156-167.
285. Cf. V. H. Jackson, *JBORS* xiii, pt. II (June, 1927), pp. 126-127.
286. No. 49.28 in State Museum, Lucknow.
287. A. K. Narain and T. N. Roy, *op. cit.*, pp. 45-46.
288. K. K. Sinha, *op. cit.*, pp. 55-57.
289. R. C. Gaur, *op. cit.*, p. 368-369, plate Lxxxii.
290. No. 56.499 in State Museum, Lucknow and 62.313 in National Museum, New Delhi.
291. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
292. R. C. Gaur, *op. cit.*, p. 366.
293. B. B. Lal, *A.I.* nos. 10 and 11 (1954-55), pp. 85-86.
294. B. P. Sinha and S. R. Roy, *op. cit.*, pp. 156-167.
295. K. K. Sinha, *op. cit.*
296. No. 79.12/6 in State Museum, Lucknow.
297. Cf. Venkatramayya, *IAR* 1954-55, pp. 15-16.
298. Cf. R. B. Narain, *IAR* 1965-66, p. 51.
299. Cf. Vijay Kumar, *IAR* 1966-67, p. 31.
300. Cf. V. H. Jackson, *JBORS* xiii, pt. II (1927), pp. 126-127.
301. A. K. Narain and T. N. Roy, *op. cit.*, p. 44.
302. K. K. Sinha, *op. cit.*, pp. 55-57.
303. No. 56.499 in State Museum, Lucknow and No. 62.313 in National Museum, New Delhi.
304. Cf. Venkatramayya, *IAR* 1954-55, pp. 15-16.
305. Nos. 48.3/5 and 68.47 in National Museum, New Delhi.
306. Venkatramayya, *IAR* 1954-55, pp. 15-16, plate xxxviii B.
307. Cf. B. K. Thapar, *IAR* 1975-76, pp. 53-55.
308. Cf. R. B. Narain, *IAR* 1965-66, p. 51.
309. R. C. Gaur, *op. cit.*, pp. 366-369.
310. Cf. B. B. Lal, *A.I.* no. 9 (1954-55), pp. 85-86.
311. K. K. Sinha, *op. cit.*, pp. 55-57.
312. Cf. V. H. Jackson, *JBORS* Vol. xiii, pt. II (1927), pp. 126-127.
313. A. K. Narain and T. N. Roy, *op. cit.*, pp. 45-46.
314. No. 79.12/6 in State Museum, Lucknow.
315. S. C. Kala, *op. cit.*, p. 60.
316. R. C. Gaur, *op. cit.*, pp. 366-368.
317. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.
318. Cf. Venkatramayya, *IAR* 1954-55, pp. 15-16 and cf. M. C. Joshi, *IAR* 1976-77, p. 54 and no. 45.101, State Museum, Lucknow.
319. Cf. V. H. Jackson, *JBORS* Vol. xiii pt. II (June, 1927), pp. 126-7.
320. Cf. Sita Ram Roy, *IAR* 1972-73, p. 7.
321. R. C. Gaur, *op. cit.*, p. 370, plate Lxxxiv A.
322. R. C. Gaur, *Ibid.*
323. Cf. V. K. Misra, *IAR* 1976-77, p. 13.
324. Cf. Venkatramayya, *IAR* 1954-55, pp. 15-16, and cf. B. K. Thapar, *IAR* 1975-76, pp. 53-55.

325. R. C. Gaur, *op. cit.*, p. 370, plate Lxxxiv B.  
 326. Cf. V. H. Jackson, *JBORS* Vol. xiii, pt. II (June, 1927), pp. 126-127.  
 327. R. C. Gaur, *op. cit.*, p. 370, plate lxxxiv.B.  
 328. Cf. B. K. Thapar, *IAR* 1975-76, pp. 53-55.  
 329. Cf. Venkatramayya, *IAR* 1954-55; pp. 15-16, cf. no. 45.22 in State Museum, Lucknow.  
 330. Cf. Haertel, *IAR* 1966-67, p. 42.  
 331. R. C. Gaur, *op. cit.*, p. 366.  
 332. B. P. Sinha and S. R. Roy, *op. cit.*, pp. 156-167, plate Liii.  
 333. Cf. R. B. Narain, *IAR* 1965-66, p. 51.  
 334. Cf. V. H. Jackson, *JBORS* Vol. xiii, pt. II, pp. 126-7.  
 335. A. K. Narain and T. N. Roy, *op. cit.*, p. 44.  
 336. Cf. B.P. Sinha, *IAR* 1974-75; p. 8.  
 337. R. C. Gaur, *op. cit.*, p. 366.  
 338. K. K. Sinha, *op. cit.*, pp. 55-57.  
 339. A. K. Narain and T. N. Roy, *op. cit.*, p. 44.  
 340. J. H. Marshall, *Excavations at Bhita* (ASIAR 1911-12) p. 74, plate xxiii.31 (1915).  
 341. N. G. Majumdar, *Exploration at Lauriya Nandan Garh* (ASIAR 1935-36), plate xxii c, 1938.  
 342. Cf. V. H. Jackson, *JBORS*, Vol. xiii, pt. II (June, 1927) pp. 126-127.  
 343. R. C. Gaur, *op. cit.*, p. 372.  
 344. Cf. A. S. Altekar, *IAR* 1956-57, pp. 19-20.  
 345. Cf. Sita Ram Roy, *IAR* 1975-76; p. 8.  
 346. Cf. S. K. Srivastava, *Chhavi-2*, p. 270.  
 347. V. S. Agrawala, *op. cit.*, p. 17.  
 348. S. K. Srivastava, *Chhavi-2*, p. 270.  
 349. Cf. V. H. Jackson, *JBORS*, Vol. xiii, pt II (June, 1927), p. 126.  
 350. Cf. A. K. Narain and T. N. Roy, *op. cit.*, pp. 44-45.  
 351. R. C. Gaur, *op. cit.*, p. 363.  
 352. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 153-167.  
 353. Cf. B. P. Sinha, *IAR* 1965-66, p. 11.  
 354. Cf. M. M. Nagar, *IAR* 1957-58, p. 49.  
 355. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.  
 356. Cf. V. S. Agrawala, *A.I.* no. 4 1947-48.  
 357. Cf. V. Kumar, *IAR* 1964-65, p. 35; *IAR* 1965-66, p. 38; *IAR* 1966-67, p. 31.  
 358. G. R. Sharma, *op. cit.*, pp. 75-77.  
 359. Cf. B. B. Lal, *A.I.* no. 10 and 11, pp. 85-86.  
 360. Cf. B. P. Sinha, *IAR* 1972-73, pp. 6-7.  
 361. Cf. B. B. Lal, *IAR* 1969-70, p. 4.  
 362. K. K. Sinha, *op. cit.*  
 363. *Chhavi-2*, p. 270.  
 364. Cf. V. S. Agrawala, *A.I.* no. 4 (1947-48).  
 365. *Ibid.*  
 366. *Ibid.*  
 367. Nos. 2693, 4832, 4834 in National Museum, New Delhi.  
 368. Cf. V. H. Jackson, *JBORS*, Vol. xiii, pt. II (June, 1927), p. 126.  
 369. A. K. Narain and T. N. Roy, *op. cit.*, pp. 44-45.  
 370. R. C. Gaur, *op. cit.*, p. 363.  
 371. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 153-154, plate XL no. 375/c (1959-60) V.Sc.II.  
 372. B. P. Sinha and Sita Ram Roy, *Ibid.*, plate xL. no. 1905/K, p. 153-154 (1957-58), VSK-iv.  
 373. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 153-155, plate XL, no. 340/G (1958-59) VSG II.  
 374. K. K. Sinha, *op. cit.*, pp. 52-55.  
 375. A. K. Narain and P. K. Agrawala, *Excavations at Rajghat IV*, pp. 68-69, plate III, 2, 3, 4 and 5.  
 376. *Ibid.*, p. 69-70, plate iv-4, 5, 6 and 7.  
 377. *Ibid.*, p. 83, plate xvi A-1 and 2.  
 378. P. L. Gupta, *op. cit.*, p. 17.  
 379. S. C. Kala, *Terracotta figurines from Kausambi*, plate I.4, II.A.  
 380. S. C. Kala, *op. cit.*, p. 14.  
 381. Nos. 41.71 and 41.72 in State Museum, Lucknow.  
 382. Cf. V. H. Jackson, *JBORS* Vol. XIII, pt. II (June, 1927), p. 126.

383. R. C. Gaur, *op. cit.*, p. 363.
384. B. P. Sinha and S. R. Roy, *op. cit.*, pp. 153-167, plate xLii, no. 2512/G (1959-60) VSG XVIII.
385. P. L. Gupta, *op. cit.*, pp. 26-27.
386. Cf. V. S. Agrawala, *A.I.* No. 4 (1947-48).
387. S. C. Kala, *op. cit.*, p. 49.
388. A. K. Narain and T. N. Roy, *op. cit.*
389. *Chhavi-2*, p. 270.
390. *Ibid.*, p. 272.
391. V. S. Agrawala, *Indian Art*, pp. 308-315.
392. *Ibid.*
393. Cf. A. K. Coomaraswamy, *IPEK*, 1928, fig. 14 : 'Archaic Indian terracottas', cf. P. L. Gupta, *op. cit.*, p. 24-26.
394. V. S. Agrawala, *Indian Art*, pp. 308-315.
395. P. L. Gupta, *op. cit.*, p. 26.
396. *Ibid.*, p. 27.
397. *Ibid.*, pp. 26-27.
398. *Ibid.*
399. *Ibid.*, p. 28.
400. V. S. Agrawala, *A.I.*, No. 4; p. 109, fig. 10.
401. V. S. Agrawala, 'Terracotta figurines of Ahichchhatra', *A.I.* No. 4; 1947-48.
402. Nos. 42.29, 44.34, 45.88, 45.92 and 47.117 in State Museum, Lucknow.
403. No. 35.2556 in Mathura Archaeological Museum.
404. No. 71-12 in Mathura Archaeological Museum.
405. No. 36.2702 in Mathura Archaeological Museum.
406. No. 32.2227 in Mathura Archaeological Museum.
407. V. S. Agrawala, 'Mathura Terracottas', *J.U.P.H.S.*, Vol. ix. figs. 17-21.
408. R. C. Gaur, *op. cit.*, p. 363.
409. V. S. Agrawala, *Indian Art*, pp. 308-315.
410. *Ibid.*
411. P. L. Gupta, *op. cit.*, p. 29.
412. *Ibid.*, p. 29.
413. Nos. 74.5, 74.6, 74.9, 74.11, 74.12, 74.14 in National Museum, New Delhi.
414. No. 5443 in Allahabad Municipal Museum.
415. S. C. Kala, *op. cit.*, p. 49.
416. No. 5471 in Allahabad Municipal Museum.
417. No. 5472 in Allahabad Municipal Museum.
418. S. C. Kala, *Ibid.*, p. 47.
419. Cf. M. M. Nagar, *IAR* 1957-58, p. 49.
420. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.
421. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 153-167.
422. No. 48.75 in State Museum, Lucknow.
423. B. P. Sinha and Sita Ram Roy, *op. cit.*, plate xLi, no. 1712/G (1958-59) VSG XIV.
424. No. 51.56 in State Museum, Lucknow.
425. A. K. Narain and T. N. Roy, *op. cit.*, IV, pp. 97-98.
426. G. R. Sharma, *op. cit.*, pp. 75-77.
427. No. 55.121 in State Museum, Lucknow.
428. R. C. Gaur, *op. cit.*, pp. 363-365.
429. Cf. V. S. Agrawala, *A.I.* No. 4, p. 115.
430. No. 68.193 in National Museum, New Delhi.
431. Cf. Venkataramayya in *IAR* 1954-55; pp. 15-16, cf. nos. 43.55 and 44.33 in State Museum, Lucknow and No. 60.291 in National Museum, New Delhi.
432. Cf. R. B. Narain, *IAR* 1965-66, p. 51.
433. Cf. Vijay Kumar in *IAR* 1964-65, p. 35; *IAR* 1965-66, p. 38 and *IAR* 1966-67, p. 31.
434. Cf. K. M. Srivastava, *IAR* 1975-76, p. 50.
435. Cf. B. B. Lal, *IAR* 1969-70, p. 4.
436. K. K. Sinha, *op. cit.*, pp. 52-55.
437. No. 433 in Allahabad Municipal Museum.
438. B. B. Lal, *A.I.* No. 10 and 11, pp. 85-86.

439. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 153-167.
440. Cf. B. P. Sinha, *IAR* 1972-73, pp. 6-7.
441. J. H. Marshall, *op. cit.*, (1915) *ASIAR*, (1911-12), p. 172.
442. A. K. Narain and P. K. Agrawala, *op. cit.*, pp. 97-98.
443. *Ibid.*, p. 99, plate xxvii, 1, 3; plate xxvi, 4 A similar specimen was wrongly attributed to Kausambi in Bharat Kala Bhawan, Moti Chandra, 'Terracottas in Bharat Kala Bhawan, Chhavi Golden Jubilee Volume, p. 8.
444. *Ibid.*, pp. 100-101.
445. S. C. Kala, *op. cit.*, p. 51 cf. no. 433 in Allahabad Municipal Museum.
446. K. K. Sinha, *op. cit.*, pp. 52-55.
447. No. 51.56 in State Museum, Lucknow.
448. No. 55.121 in State Museum, Lucknow.
449. R. C. Gaur, *op. cit.*, p. 363.
450. *Ibid.*, p. 364.
451. *Ibid.*, p. 365.
452. Cf. B. P. Sinha, *IAR* 1972-73, pp. 6-7.
453. Cf. B. B. Lal, *A.I.* no. 10 and 11, pp. 85-86.
454. Cf. B. B. Lal, *IAR* 1969-70, p. 4.
455. S. C. Kala, *op. cit.*, p. 51, cf. No. 4216 in Allahabad Municipal Museum.
456. No. 4376 in Allahabad Municipal Museum.
457. G. R. Sharma, *op. cit.*, pp. 75-77.
458. No. KSB XIII D/72-58 in G. R. Sharma, *op. cit.*
459. KSB XIII D/54-58 in *Ibid.*
460. No. 45.53 in State Museum, Lucknow.
461. Nos. 74.304, 74.309, 74.310 and 74.313 in National Museum, New Delhi.
462. S. C. Kala, *op. cit.*, p. 28.
463. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 153-167, plate XLI.
464. S. C. Kala, *op. cit.*, p. 53.
465. No. 2367 in Allahabad Municipal Museum.
466. No. 74.8 in State Museum, Lucknow.
467. J. H. Marshall, *op. cit.*, (*ASIAR* 1911-12) plates XXIII.17, XXIV(1915) cf. C. C. Das Gupta, *op. cit.*, p. 172.
468. No. 67.600 in State Museum, Lucknow.
469. R. C. Gaur, *op. cit.*, p. 364.
470. No. 661 in Allahabad Municipal Museum; No. 78.16 in State Museum, Lucknow cf. S. C. Kala, *op. cit.*, p. 44, cf. B. B. Lal, *A.I.* 10 and 11, pp. 85-86.
471. No. 2493 in Allahabad Municipal Museum.
472. No. 71.199 in National Museum, New Delhi.
473. A. K. Narain and P. K. Agrawala, *op. cit.*, pp. 99-100.
474. R. C. Gaur, *op. cit.*, p. 364.
475. *Ibid.*, p. 365.
476. No. 4698 in Allahabad Municipal Museum cf. S. C. Kala, *op. cit.*, p. 16.
477. No. 52.86 in Allahabad Municipal Museum, cf. S. C. Kala, *Ibid.*, p. 39.
478. *Ibid.*, p. 32.
479. Cf. V. S. Agrawala, 'Terracotta figurines of Ahichchhatra', *A.I.* No. 4, (1947-48).
480. No. B.67 in National Museum, New Delhi.
481. G. R. Sharma, *op. cit.*, pp. 76-77.
482. No. 79.10 in State Museum, Lucknow.
483. No. 0.67, 80.246, 74.300 in National Museum, New Delhi.
484. No. 5012, 4663 in Allahabad Municipal Museum.
485. No. 79.21/6 in State Museum, Lucknow.
486. No. 79/11/6 in State Museum, Lucknow.
487. No. 74.299 in National Museum, New Delhi.
488. R. C. Gaur, *op. cit.*
489. Cf. R. C. Agrawala, *IAR* 1963-64, p. 29.
490. Cf. Sita Ram Roy, *IAR* 1976-77, p. 12.
491. Cf. B. B. Lal, *IAR* 1969-70, p. 4.
492. Cf. V. S. Agrawala, *A.I.* no. 4 (1947-48); cf. No. 56.490 in State Museum, Lucknow and nos. 62.24<sup>p</sup> Ac V 6191 in National Museum, New Delhi.

493. No. 56.492 in State Museum, Lucknow.
494. K. K. Sinha, *op. cit.*, pp. 52-55.
495. No. 55.255 in State Museum, Lucknow.
496. No. 5008 in Allahabad Museum; No. 79.20/6 in State Museum, Lucknow and No. 62.1529 in National Museum, New Delhi.
497. S. C. Kala, *op. cit.*, p. 58.
498. No. 67.142 in National Museum, New Delhi.
499. No. 2777 in National Museum, New Delhi.
500. No. 5108 in Allahabad Municipal Museum.
501. S. C. Kala, *op. cit.*, p. 57.
502. P. L. Gupta, *op. cit.*, p. 58.
503. *Ibid.*, p. 58.
504. A. K. Narain and P. K. Agrawala, *op. cit.*, plate xxix, 1-2; p. 102.
505. V. S. Agrawala, *A.I.* no. 4, p. 123, fig. 70.
506. Nos. G 215 J, G 298, 66.568, State Museum, Lucknow.
507. No. G. 215 J in State Museum, Lucknow.
508. No. G 298 in State Museum, Lucknow.
509. No. 66.568 in State Museum, Lucknow.
510. No. 80.577 in National Museum, New Delhi.

## FIVE

# ARCHITECTURE

The period of our study is notable for its building activity. After a lapse of about one millenium years the second urbanization started in India around 6th cent B.C. with the rise of *Mahājanpadas*. With the extensive growth of trade and commerce, big cities as trade centres began to spring up one after the other. The small principalities began to fall one after the other and ultimately by the time of the Nandas the Magadhan power was able to establish a well organised state which ultimately paved the way for the rise of the Mauryan Empire. Royal residential and public utility buildings were made.

Megasthenes has left a vivid account of the magnificent town of Pataliputra with highly skilled wooden structures. It appears that on similar pattern, other cities though smaller in size, also grew at various places. It is almost impossible to trace their remains. Later on the wooden structures were replaced atleast in the cities by sundried and kiln-burnt brick structures. The remains of those structures have been excavated at various places. These include defence, roads, palaces, dwelling houses, reservoirs, drains, soakage wells, ringwells, etc.

### A. Cities and Towns

It is very difficult to recapitulate the exact city planning of those days either through the literary accounts or the remains of structures exposed during the course of excavation.

The *Milinda Panho*<sup>1</sup> provides some clue to an early Indian city:

"It was measured out in fine and regular quarters. It was fortified with ramparts and excavated moats. It had stout gateways and towers.

Besides dwellings, cities included market places, cross roads, street corners and public squares, with cleanly and even main roads with regular lines of open shops, well provided with parks, gardens, lakes, lotus ponds and wells adorned with many kinds of temples of the Gods."

The *Mānasāra*, though a later text, gives some idea of the ancient habitational planning which would have not been much different from that of our period of study. According to it a town is simply the extension of a village, and the fort is in many cases nothing more than a fortified town chiefly meant for purposes of defence, on the other hand a village or town is mainly intended for habitation and commerce. But the village scheme seems to have originated from the plan of the military camp.<sup>2</sup> The *Mānasāra* records that in the villages, "We nowhere hear of isolated houses. The houses were altogether, in group, separated only by narrow lanes."<sup>3</sup> A town may be situated from east to west or from North to South according to the position it occupies. There should be one to twelve large streets in town. It should be built near a river or a mountain and should have facilities for trade and commerce with foreigners. It should be furnished with walls, moats, ditches, gates, drains, parks, common shops, temples, guest houses, colleges, etc.<sup>4</sup>

An idea of what these cities looked like can be seen in the reliefs of Bharhut<sup>5</sup> and Sanci.<sup>6</sup> In these reliefs many of the ancient cities like Rajgrha, Śrāvastu, Vāranasi, etc. have been shown.

The growth of prosperity, trade and communications gave the necessary filling for enlarging smaller habitations into cities. Cities<sup>7</sup> also grew around sacred places and seven such sacred cities find mention in literature.

No proper evidence of ancient town planning is available in the Gangetic Valley. In the Bhir mound, at Taxila, there is no planning at all. On the irregular and crooked main street opened a number of narrow alleys, ramifying in all directions.<sup>8</sup> The stone built houses are in a jumble and "it is often impossible to determine where one house ends and the other begins."<sup>9</sup> However, Sirkap the next city at Taxila<sup>10</sup> is fully planned. Marshall on the basis of his excavations guessed that the city was typically on Greek chess board pattern, streets cutting one another at right angles and regularly aligned blocks of buildings.

Pataliputra<sup>11</sup> the capital of the Mauryas, according to the Megasthenes, was a long narrow city, stretching nine miles along the bank of the river Gaṅgā having a width of 1.75 miles.

Śisūpalgadh,<sup>12</sup> in the neighbouring State of Bihar in Orissa, was a well planned city. It originated in 300 B.C. The city was an almost exact square of nearly a mile on each side. Defences were constructed in the first quarter of the 2nd century B.C.

Though belonging to 1st century A.D., the cities of Ahichchhatra<sup>13</sup> and Sanghol<sup>14</sup> tally with the accounts of Arthaśāstra. At Hastināpura,<sup>15</sup> the excavated brick buildings belonging to the NBPW phase (Period III) reveal thickly populated township with seven structural phases showing that it remained occupied for a long time.

Most of the early cities were often founded on the banks of rivers, not merely because they offered easy means of communication or convenient supply of water but also because they were regarded as sacred places.

Hastināpur<sup>16</sup> and Rajghāt<sup>17</sup> were situated on the banks of Gaṅgā, Patna<sup>18</sup> on the confluence of Gaṅgā and Son, Kauśāmbi<sup>19</sup> on the banks of Yamunā. Other cities like Ruper, Ujjain, Vaiśali, etc. were also situated near river banks. Only a few like Rajgrha<sup>20</sup> and Ahichchhatra<sup>21</sup> were not situated on river banks.

According to Megasthenes,<sup>22</sup> "The cities built on the banks of rivers or sea shore were built of wood as they were meant to last only for a short time, being liable to destruction by floods and heavy rains. But cities built on lofty eminences or in places free from ravages of flood and rain were built of brick and mud."

Sometimes depending on the availability and resources stones were also used. Aśoka had crowned the capital with a gigantic stone palace exquisitely carved.<sup>23</sup>

### 1. FORTIFICATION

Though the urbanization in Northern India started around 6th century B.C., the building activities at a large scale started only during the Mauryan period. During this very period the necessity of fortifying the towns, particularly the capitals, was realized. Excavations have revealed that mud bunds were erected during the PGW period to protect the habitational areas from the annual floods. At many sites it has been noticed that these bunds were subsequently raised into fortifications surrounding the entire settlement. However, these were still of mud or earthfilling extending the height and width of the original base. Atranjikhera<sup>24</sup> and Śrāvastu<sup>25</sup> provide interesting evidences of strengthening the rampart with structural activity. At places

towers were also added capped by brick built parapet wall. At both the places it has been noticed that the brick wall does not run as a solid mass throughout but has regular gaps. This remarkably confirms to the description given in Arthaśāstra.<sup>26</sup> However, it is evident that the real defences along with moat rapidly grew during the Śunga period or immediately after the downfall of the Mauryas, when the danger of foreign invasion became evident.

Almost all the cities of this period were fortified.

In all the cases except Pataliputra, the fortification was of mud during 3rd cent. B.C. Subsequently during Śunga period, the mud ramparts were surmounted by brick structures or stone walls. The fortifications varied from rough crescent to rectangles. At Pataliputra<sup>27</sup> and Ujjan<sup>28</sup> it was in the shape of a parallelogram, at Rājgir<sup>29</sup> it was pentagonal, at Vaiśālī<sup>30</sup> it came out to be a rectangle. Kauśāmbī<sup>31</sup> comprised an irregular oblong shaped fortification.

All these town appear to be of one established type, strongly fortified and surrounded by high walls having battlements with the merlons corbel stepped.<sup>32</sup> Kauśāmbī had a strong fortification. It was initially constructed out of mud in 6th cent. B.C. and was thrice extensively rebuilt.<sup>33</sup> At Mathurā during 3rd century B.C. builders laid compact layers of earth, making a pronounced slope on the exterior. The outer surface further strengthened with oblique packings.<sup>34</sup> An exploratory survey revealed the existence of two rings of mud-ramparts, the first elliptical in shape and the second quadrangular and comprised within the first, as if signifying a citadel.<sup>35</sup> The excavations at Mathurā<sup>36</sup> have thrown some light on the development of the township. A village of period I (600-400 B.C.) in the northern part of the present town, a fortification of mud, now known as *Dhūlkoṭ*, was raised around the township in period II (400-200 B.C.). However, in period III (200 B.C. - end of 1st cent. B.C.) this city wall lost its utility.

In the earliest period the town of Śrāvastī was fortified with crescent shaped mud ramparts, encircling an area of about 3 miles. In the second sub-period a brick structure was built which served as a parapet over the rampart. In the next sub-period the height of rampart was raised by mud fillings and the top layer of the rampart was built of bricks and brickbats constructed at regular intervals.<sup>37</sup> At places the height of the rampart walls was about 60 ft. Unlike other fortified cities viz. Kauśāmbī, Ahichchhatra and Ujjain, inner face of the city wall was seldom completely obliterated by the accumulations of habitational deposits belonging to a later period.<sup>38</sup> The description of the fort as given by Kautilya very much tallies with the city wall of Śrāvastī.<sup>39</sup>

The defences at Atranjikhērā were built in four stages. The destruction by the river probably promoted people to build a massive mud bund on the eastern side facing river.<sup>40</sup>

In the beginning a massive clay deposit was laid in slope after the flood. It was about 30 meters wide at the base. In the 2nd sub-phase it was again raised and strengthened with ashy material containing NBPW sherds. This time the bund surrounded the whole town as rampart. In the next phase it was again strengthened with mud and a few mud brick structures and its height was also raised.<sup>41</sup> After this sub-period probably the rampart remained neglected because the bricks of the upper courses were found in decomposed condition. But during fourth sub-phase a mud brick structure was constructed with regular gaps. Its height upto thirteen courses was traced with an extent length of 3.7 metres at one place.<sup>42</sup> According to literary traditions Vaiśālī had three city walls. During excavations two of them have been identified. The excavation at Garh area revealed three phases of a defence. In the first phase belonging to Śunga period it was made of burnt bricks and about 20' wide.<sup>43</sup> Rājgir was situated in a long valley engirdled by hills providing a natural defence to it. Even then the



city had one more small citadel. In the early stage (6th-5th B.C.) the rampart was of mud. After some time a brick wall was laid on it. In the next phase a thick deposit of earth mixed with ash was laid over the collapsed debris of the brick fortification. In the later part of the same phase over the debris of battered platform, a wall of brickbats was raised to protect the weathering of the rampart.<sup>44</sup> In the 3rd-2nd cent. B.C. a rubble stone wall replaced the former brick wall.<sup>45</sup>

These were laid in cyclopaean fashion, pierced by gateways, each flanked on either side by a semicircular bastion, over which probably rose the watch tower, an almost invariable feature of these fortress cities.<sup>46</sup> At Ujjain a massive wall of compact whitish clay was laid in bands. The wall overlying a platform of a single course of burnt bricks of large size suffered badly due to floods.<sup>47</sup> The fortification on river side was breached at least thrice by floods. The structures were made by mud, mud bricks and stone rubbles or burnt bricks respectively.<sup>48</sup>

Ahichchhātra<sup>49</sup> had a brick fortification of the shape of a rough isosceles triangle with a perimeter of about three and a half mile. Below the brick wall there were two successive earth ramparts. Though it is somewhat of later period it carries the earlier tradition.

At Pataliputra, the city was girdled by a wooden wall. According to Megasthenes,<sup>50</sup> "these walls were pierced with loopholes for the discharge of arrows." Fragments of wooden ramparts unearthed by Waddell<sup>51</sup> at Bulandibagh confirms the Megasthenes' account. But nothing has survived except fragments of the wooden ramparts unearthed at Bulandibagh, near Patna. An idea may be gained from the foundations which consisted of timbers laid in parallel lines like railway sleepers each 12 ft. to 13 ft. long, corresponding to the thickness of the stockade at its base.<sup>52</sup> The massive palisade of teak beams were held together by iron dowels.<sup>53</sup>

At Pataliputra there was also a large wooden tunnel, the function of which has not been discovered. It could have been a passage way inside an earthen fortification or it could have been a structure filled in with earth to provide extra strength.<sup>54</sup> According to D. D. Kosambi "the fortification of Pataliputra at its greatest were of timber covered with earth."<sup>55</sup>

The ramparts represented on Sañci toraṇa depicting war of relics (Plate: CXIV-A) generally seems to have been constructed either of large bricks or dressed stones and sometimes of mud, which is evident from their smooth surface. Plastering of the brick boundary wall was also prevalent in ancient times.<sup>56</sup> Details in other reliefs show the presence of a moat surrounded by a palisade or railing.<sup>57</sup>

The walls of the village usually formed a rectangle pierced by four large and four small gateways.<sup>58</sup>

## 2. MOAT

Kautilya<sup>59</sup> ordines the construction of a series of three moats. Aśvaghōṣa<sup>60</sup> also appreciates the city of Kapilavastu as a second Girivraja due to its wide and deep moats.

On the Sañci gateways Kapilavastu, Kuṣiṇagar and Rajgrha cities can be seen. Outside the city is a moat in which lotus and other aquatic plants are floating.<sup>61</sup>

At many places a moat was seen outside the fortification wall. It was meant for defence purposes but in some cases it was used for receiving the sewage of the city.

At Pataliputra there was a huge moat on the two sides not protected by rivers It was filled with water of Son. This moat was 600 ft. broad and 30 cubits deep; it protected the town and also carried off the drainage.<sup>62</sup>

planning. There was a hall flanked by rooms on its two sides. Rooms had lime flooring. Each room was provided by three shelves and the central hall had a flight of steps to reach the central tower end. A similar structure without bottom planks was found half a mile east of Bulandibagh.

A broad stone pavement consisting of huge flags of stone (2 ft.-3 ft. long 2 ft. broad and 2 in. thick) over a square quarter of a mile was probably a great court pier, probably within the palace grounds.<sup>102</sup>

At Kauśāmbī<sup>103</sup> in the south-eastern corner of the ancient walled city, a stone palace was situated on the bank of Yamunā. The palace covered an area of 315x150 meters. The ground was raised by 2.5 meters making a high platform of mud and mud-bricks. All the walls were made of stone set in fine mortar of lime. Northern wall joined at eastern and western ends by two return walls. At each junction there was a circular tower. At about midlength of Northern wall, there was an oblong tower. In side Palace,<sup>104</sup> there were only a few rooms. Opposite central tower a hall was found flanked by a room on two of its sides. The rooms had lime flooring, and each room was provided with three shelves. The central wall had a flight of steps to reach the Central tower. Palace walls showed three phases of evolution. In first phase, the walls were of undressed huge stones set in lime mortar. In second phase, dressed stones were used for facing while cores remained of rubble. In third phase, the cores were made of bricks. Huge stones were found in the foundation. The walls were covered throughout with lime plaster of uniform thickness.<sup>105</sup>

Kautilya<sup>106</sup> also refers in Arthaśāstra that "the king shall construct his own residential palace in the centre of the delusive chamber." He also describes various accessories of the palace.

In Manasara<sup>107</sup> from one storeyed to twelve storeyed buildings have been described in different chapters. However, no such buildings have been excavated. But we find good examples of multistoreyed buildings in the reliefs of Bharhut and Sāncī.

The Vijayaṅt Pāsāda (so inscribed), the palace of Indra depicted at Bharhut belonging to 175 B.C. is a three storeyed building. The ground storey is an open pillared hall. All the three storeys have their lowest one third portions surrounded by railing. These railings resemble with those of the Buddhist buildings. Each storey is divided into three portions. The middle storey has three arched openings one for each section.<sup>108</sup>

Another is a two storeyed building<sup>109</sup> showing princes sitting in windows of the room. Three finials and two birds are shown on the ridges of the roof. The windows seem to be flush with the parapet of the room of the upper storey. A small latticed window is seen in the wall of the room, between the windows. The pillars of the lower storey have lotus capitals and are octagonal below. This palace is also depicted on the panel of Bharhut belonging to c. 175 B.C.

There are some other palaces depicted on Bharhut panels, like one showing terrace or balcony outside the room;<sup>110</sup> a two storeyed palace of gods showing deities between pillars for supporting upper storey. Here a courtyard has also been shown.<sup>111</sup>

At Sāncī also, a number of palaces have been depicted in panels.<sup>112</sup> The palace of king Śuddhodana, father of the Buddha, shows queen Māyā sleeping on the second floor under a shelter build of timber (cf. modern *Chajja*). This palace is depicted on east toraṅa and belongs to c. 100 B.C.<sup>113</sup> A railing pillar from Bodhgaya<sup>114</sup> belonging to 1st cent. B.C. shows a two storeyed edifice (Plate: LXXXVIII-A).

## 2. GARDENS

At Bharhut the Jetawana is presented to us as the pleasure garden of a prince which was purchased with a layer of gold coins.

The mangogrove in the suburb of Rajagrha appears as a private garden of Jivaka. The presence of the Nyagrodharama which became the scene of the *Dharmacaitya* discourse is indicated by the Dharmacakra Sanctuary, and a royal drive towards it. An idea of such an *arama* is also suggested in another scene. The presence of a royal garden is indicated by a tree and an antelope, standing without fear before a man. The action of the monkeys shows how the fruit gardens of common people lay open to mischiefs.<sup>115</sup>

## 3. MARKET PLACES

In Bharhut panels<sup>116</sup> the market places are indicated only by a banana and a honeyshop.

## 4. DWELLING HOUSES

The earlier tradition of making houses with wattle and daub continued in the early phase of NBPW period, though a few mud brick structures also began to be casually made. Soon after the number of mud brick houses gradually increased. Though their roofs continued to be in wattle and daub. However, in the beginning of the Mauryan period burnt brick structures along with mud brick structures began to appear. Various excavations have revealed that the structures of this period were of following types:

1. Wattle and daub supported by wooden posts with thatched roofs.<sup>117</sup>
2. Mud brick structures with thatched roofings.<sup>118</sup>
3. Mud brick-cum-burnt brick structures.<sup>119</sup>
4. Mud brick/burnt brick-cum-mud walls with wooden post.<sup>120</sup>
5. Burnt brick structures with tiled roofs.<sup>121</sup>

The houses varied in size according to utility.

### (a) Foundation

The foundation trenches excavated at various sites have indicated that the foundation varied according to need or practice. For example at Jajmau,<sup>122</sup> the foundation base was laid down with rammed brick bats and compact earth, while at Kayatha,<sup>123</sup> Madhya Pradesh, foundation of a wall revealed coarse rubble set in mud mortar. At Malhar,<sup>124</sup> also in Madhya Pradesh, local white stone was used for foundation of structures and was filled with gravel and black soil. At Tripuri<sup>125</sup> undressed stones were used in the foundations of walls. Ujjain<sup>126</sup> gave altogether a new evidence. Mud and mud brick structures were normally built over a plinth of rubble and clay. Besides these the usual practice was of using mud and mud brick bats in foundation as found at Rajghat<sup>127</sup> or the course of bricks were laid in the foundation trench just above the level ground. An interesting feature was noticed at Atranjikhhera,<sup>128</sup> where a layer of sand was spread in the foundation pit, probably to save the structure from moisture.

### (b) Brick and other building materials

The building activity increased considerably during the NBPW period with which the urbanization began in India. Now houses of mud and burnt brick became increasingly common, replacing those of wattle and daub. Besides the structures of Sundried and Kilnburnt bricks,

some made partially of rubble, kankar and stone were also noticed at a few sites. The Bhir mound at Taxila,<sup>129</sup> in the early phase revealed a poor construction largely made of rubble while at Sirkap, the adjoining mound during 2nd cent. B.C., the houses were built neatly of coursed rubble stone. Almost on similar pattern kankar stone or river pebbles were set in mud mortar at Ruper<sup>130</sup> to build houses. In addition to these structures houses of mud and kiln burnt bricks were also noticed here. Structures of stone boulders have been reported during the pre-Śunga period from Tumain<sup>131</sup> along with baked brick structures. At Ujjain<sup>132</sup> stone rubbles and burnt bricks were used side by side for construction. Rooms built of coarse and semi-dressed stones were also noticed at Besnagar.<sup>133</sup> However, better examples have been noticed at Malhar<sup>134</sup> both of dressed and undressed stones set in clay and stone slabs being used for building purposes. Use of burnt bricks was observed during this period (2nd B.C. to beginning of Christian era) for the first time.<sup>135</sup> Its use on fairly large scale and on regular basis signifies an advance on the technical side and points towards the significant change in the economic status of the people.

Generally the bricks were laid in stretched fashion because of their width. Though in defences alternate rows of headers and stretchers, popularly known as 'English bond System', were used as noticed at Katragarh<sup>136</sup> and Kauśāmbi.<sup>137</sup> The mortar used was as a rule sticky mud. At Pataliputra,<sup>138</sup> it was composed of sand and lime, but at Purāna Qila<sup>139</sup> quartzite rubble was set in mud mortar to raise the wall. Though there were differences in the size of the bricks (see Chart) at various places, most of these bricks bear three key or fronge marks either on one side or both of it to hold the mortar as in case of Ālamgirpur<sup>140</sup> and Allāhapur.<sup>141</sup>

Obviously, during Maurya-Śunga period brick making would have been an important industry engaging a large number of people. At Pariar<sup>142</sup> recently Lal found some brick kilns belonging to period III.

The building activity also increased considerably due to the use of many new iron tools including plumb-bob. Items like clamps for sturding the door points, socketed clamps for clamping the wooden door with the side post of the door, staples, bolts, nails, etc. became quite common.

#### (i) Plumb-bob

From Atranjikhhera<sup>143</sup> four iron plumb-bobs (Plate: LXXXVI-1) have been reported. All of them are of same type but differ in size. They are nicely shaped with flat top and rounded body having suspension ring, partially broken and badly corroded. Most probably they served the purpose of a weight on a plumb line generally used by a mason for fixing vertical alignment of the walls.

#### (ii) Clamp

At Atranjikhhera<sup>144</sup> thirty-nine iron clamps of different types have been found during excavation. They were made of a straight band of iron, with slightly folded sides having circular or square holes for nails. A clamp provided with a nail projecting on the under surface of the metal band as an integral part was also found. It was partially broken. A copper clamp<sup>145</sup> was found folded at right angle (Plate: LXXXVI-3). The folded strip had fine holes for small nails. Their sizes varied from 4.5 cms to 12.5 cms.

Socketed clamps have been reported from Kauśāmbi<sup>146</sup> and Atranjikhhera<sup>147</sup> and Taxila.<sup>148</sup> From Kauśāmbi<sup>149</sup> an iron ring or socket of 5.5 cms. diameter was reported. It was probably used in a cudgel to make the lower end heavier. A similar specimen has been reported from Taxila.<sup>150</sup> Four iron sockets have been reported from Atranjikhhera<sup>151</sup> during early phases of the

period. These might have been used for clamping the wooden door, with the side post of the door. These are circular bands of iron secured together with the nail inserted in the holes of the band. This type of socket could be useful only for the structures made of wattle and daub. They were having (1) either one pointed nail end or (2) a wide band with one nail end or (3) one pointed end of it fixing in the hole at the other end.

#### (iii) Staple

Iron staples have been reported from Piprahwa and Ganwaria<sup>152</sup> and Atranjikhera<sup>153</sup> (Plate: LXXXVI-2) during excavations. These were made from a bar bent to the shape of a staple.

#### (iv) Bolt

A copper latch probably for securing the door has been reported from Hastinapur.<sup>154</sup> An iron door hook (?), 9.1 cms long and rectangular in section was found at Kauśāmbī.<sup>155</sup> A single specimen of a simple bolt was reported from Atranjikhera<sup>156</sup> (Plate: LXXXIV-4). It could have been used to bolt the door or window by sliding on either side. It is a straight bar of circular section having a semicircular projection in the middle to provide a grip for its use.

#### (v) Nails and Hooks

Nails have been reported from almost all the sites during excavations. They were either of iron or copper. Iron nails were more common. They have been reported from Hastinapur (Plate: LXXXVI-5), Balirajgadh,<sup>157</sup> Bateśwara,<sup>158</sup> Cirañd,<sup>159</sup> Candahadh,<sup>160</sup> Jodhpura,<sup>161</sup> Jajmau,<sup>162</sup> Oriup,<sup>163</sup> Rajgir,<sup>164</sup> Ranihat,<sup>165</sup> Sonapur,<sup>166</sup> Śrāvastu,<sup>167</sup> (Plate: LXXXVI-6, 7), Tumain,<sup>168</sup> Ujjain<sup>169</sup> and Atranjikhera.<sup>170</sup> Their head may vary from Knobbed discoid head, round or roughly rounded head, flattish discoid head to featureless head. Copper nails have been reported from Ahichchhātra<sup>171</sup> and Sohagaura.<sup>172</sup>

Iron hooks were not as popular as nails. They have been reported from fewer sites. Piprahwa,<sup>173</sup> Jajmau<sup>174</sup> and Atranjikhera<sup>175</sup> are among them. These iron hooks were of many types which continued from earlier period. New types which emerged in our period of study were as follows:<sup>176</sup>

- (1) Hook bent at one end with circular pointed tip. It was squarish in section.
- (2) Angular hook, bent at right angle and thickened. Its one arm is circular in section while the other one is almost squarish in section, tapering to a pointed tip.

#### c. Walls

Though a large number of excavations have been conducted, hardly a few of them have been excavated horizontally. With the result details of full house plan and their layout are not known. Most of the excavations have exposed stray walls of houses of varying courses without giving any idea of the houses to which they belonged. From Hastinapur (Plate: LXXXVII-B) a wall was found accompanied by a drain. In some cases two parallel walls were also noticed where they gave indication of corners of houses. At Jajmau<sup>177</sup> two parallel walls of burnt bricks were found where the gap in between were filled with compact earth and clods but the purpose could not be ascertained by the excavators. At some places main walls were found thicker than the partition walls as at Piprahwa<sup>178</sup> and Ganwaria.<sup>179</sup>

#### d. Plaster

The framework of the timber buildings was added with a filling of plaster (*chūnā*) and

painted white as there are frequent allusions in the Ancient Pāli text to great edifices "gleaming white like a cloud."<sup>180</sup> They might be decorated with painted pictures and ornamentation both on flat and stucco relief.<sup>181</sup>

At Bharhut,<sup>182</sup> except in one case, there is no evidence of the nature of the material. The only instance shows the walls of the dwelling of the Nagas, the layers of the masonry breaking bond are too plain and distinct. However, during excavations of various sites sufficient evidences of plastering on walls and structures have been noticed. At Atranjikhera,<sup>183</sup> a wall was found covered with five-six coatings of plaster. For plaster yellowish-green clay was used mixed with cheff and husk. While at Campā,<sup>184</sup> the upper surface of plaster had a coating of Surkhi. The Pātaliputra<sup>185</sup> mortar mixed with sand and lime was used as plaster.

### e. House plan

Houses varied in size and shape according to the class of owner. Mostly they were single storeyed with a floor of well beaten earth and walls of mud covered with a mixture of lime, earth and cowdung.<sup>186</sup> Usual large houses had a square courtyard surrounded by a veranda, behind which were the living rooms.<sup>187</sup> The more pretentious houses were built of wood with squared beams, sometimes of several storeys supported by pillars and well provided with balconies.<sup>188</sup>

According to literary sources<sup>189</sup> houses were built comprising dwelling rooms, and retiring rooms, store rooms, service halls, halls with fireplaces, store houses, closets and cloisters, halls for exercise, wells and sheds for wells, bathrooms and halls attached to bathrooms, ponds and open roofed sheds.

In spite of vertical diggings at various places as stated above many sites have yielded evidences of house plans or part of house complexes to indicate the size of rooms etc. At Atranjikhera<sup>190</sup> an interesting room of which two walls were of mud was found belonging to Mauryan period with a number of post holes of varying diameter indicating a super-structure of wattle and daub over it. One wall of this room was of mud brick. All this indicates that people made their houses according to the available means and materials. However, interesting structures were noticed in later period belonging to Śunga period when brick structures were found profusely. Many house complexes of burnt brick were found during this period while one of them had several rooms and including a cell with burnt brick floor and burnt brick drain,<sup>191</sup> probably this was the bathroom of the house. At Hastināpur,<sup>192</sup> portions of two rooms made of mud walls were exposed with a soakage pit. This indicates that houses during those days had their own soakage arrangements. Definite evidence of a doorway was noticed at Purāna Qila<sup>193</sup> in a two room set of a house. While at Rajghat<sup>194</sup> a small house of two rooms with one or two doorways had brought to light a vestibule, a bath with a bathing platform, a well and an attached drain. At Śhrngverpur<sup>195</sup> also a house with several rooms with drains and soakage pit was found.

At Mathurā,<sup>196</sup> the remains belonging to 2nd cent. B.C. include bamboo and reed huts with meagerly baked bricks. No complete plan of a house has come to light but well laid out brick walls, drains and ring wells suggest a high degree of planning. However, a terracotta model of a house with three rooms was found.<sup>197</sup> From Hastināpur a room has been found with all the four walls alongwith a door Sil (Plate: LXXXVII-A). At Bihar in Champā,<sup>198</sup> two structures of four rooms each were exposed. Another structure had a big hall and two rooms. Evidence of large structure with several rooms and bathrooms were reported from Kayatha.<sup>199</sup> Bathroom having arrangement for draining out water. While all these structures were rectangular

or more or less square in shape, houses at Piprahwa<sup>200</sup> in Basti district, with mud walls were found including one built circular on plan.

It appears that in India, the tradition of wooden structure was quite common during the Mauryan period. Pataliputra as described by Greek travellers, supported by archaeological evidences had a massive wooden palace and city wall all around. The common men had wattle and daub houses and in some cases sundried brick houses. Kilnburnt bricks were used for specific purposes. Evidently under the circumstances these could not survive and hence the excavations do not provide definite evidences of house plans, etc. However, it may be presumed that the same tradition continued at least upto Śunga period when the wooden and wattle and daub structures were replaced by kiln-burnt bricks. Interesting house plans have come to light at various sites during excavations. They revealed that the houses had, besides living rooms, halls (big rooms), kitchen, bathrooms with drainage, other sanitary arrangements like soakage pit etc. as well as wells and a courtyard attached to houses. Bharhut sculptures also show houses of common people consisting of a main house, an out house, a kitchen and a granary disposed on four sides of courtyard or only on two or three sides.<sup>201</sup>

#### *f. Kitchen*

Almost every site has brought to light remains of kitchen including hearths both of simple type with one mouth and those with three openings as found at Atranjikerā.<sup>202</sup> A tapering clay stand with slightly flattened top was also found near the mouth of hearth, which was probably used as a support for baking bread. At Allāhapur,<sup>203</sup> a circular mud walled kitchen was noticed with hearths, burnt floors, baked bricks and post-holes. Noh,<sup>204</sup> has yielded even four armed hearths along with those of ordinary types having two arms. At Rājghat,<sup>205</sup> a long hearth was found made with well laid brick courses at both ends. At Sonepur,<sup>206</sup> the hearth was made on a slightly raised platform different than those where elliptical types of hearths were found as evidenced at Mathurā<sup>207</sup> and Hulas.<sup>208</sup> Besides ordinary hearths Ahichchhatra,<sup>209</sup> Campā,<sup>210</sup> Rānhat<sup>211</sup> and Oriup<sup>212</sup> have brought to light ovens generally circular in shape.

Representation of hearths have also been found in sculptures. At Sāncī, a hearth has been shown in the scene depicting 'Life in the hermitage'. It is having a wide mouth, straight sides and pedestal base. In another scene depicting miraculous victory over nāga, a hearth is shown in a temple. This hearth unlike above, is in Sunglass shape. It has a longer and broader pedestal base.<sup>213</sup>

#### *g. Floor and courtyard*

Though the floors of the houses were generally made of rammed earth as evident from the excavations of Ahichchhatra,<sup>214</sup> Cirand,<sup>215</sup> Purānā Qilā<sup>216</sup> and Tripuri.<sup>217</sup> In some cases burnt brickbats and clay were rammed into the soil to make a compact mass as at Ahichchhatra<sup>218</sup> and Masaon.<sup>219</sup> In some cases the earth was mixed with pot-sherds to strengthen the floor as evident from the excavations of Masaon<sup>220</sup> and Mathurā.<sup>221</sup> At Rājghat<sup>222</sup> floors were laid over a soling of a large sized baked brick facing as well. However, most interesting evidence of a burnt brick floor laid in a single row was exposed in quite preserved condition at Atranjikerā.<sup>223</sup> At many places like Campā,<sup>224</sup> Sonkh,<sup>225</sup> Mathurā<sup>226</sup> and Śrngverpur<sup>227</sup> burnt brick flooring with one or more courses of bricks have been found. At Ujjain<sup>228</sup> an evidence, almost similar to Rānhat was found, though it differed in its layout. Here on a bed of rubble the earth was laid mixed with brick or brick jelly. In due course, in periodical repair its height

was gradually raised. From Mathura<sup>229</sup> a number of compact mud platforms of considerable height containing ring wells, 55 to 90 cms in diameter and mud floors, of which one had rows of postholes and another had circular pits and marks of burnings. Another brick floor plastered with lime and a complex of twelve mud platforms of varying sizes have also been found from the same site.<sup>230</sup> In one case, the platform is containing two damaged storage jars in situ. It appears to be a courtyard paved with brickbats and bricks having a brick border on all sides. This whole complex of a large courtyard, lime plastered floor with storage jars and mud platforms appeared to have been planned as some kind of public or communal buildings.

According to literary sources,<sup>231</sup> the floors were of earth, not of wood, and were restored from time to time by fresh clay or dry cowdung being laid down, and then covered with a white wash in which sometimes black or red colour was mixed. According to Mahāvagga<sup>232</sup> and Cullavagga,<sup>233</sup> red colouring was used for walls and the black one for floors.<sup>234</sup>

#### *h. Roof*

Five kinds of roofs are mentioned in palli texts made of brick, stone, rammed earth, straw and leaves,<sup>235</sup> respectively.

Excavations of various sites have revealed that generally the roofs were of tiles supported on wooden beams and rafters below.

##### (i) Posts and postholes

Almost all the excavated sites like Campā,<sup>236</sup> Masaon,<sup>237</sup> Piprahwa,<sup>238</sup> Rājghat,<sup>239</sup> Sonapur,<sup>240</sup> Mathura<sup>241</sup> and Atranjikhērā,<sup>242</sup> of our period of study have brought to light postholes of various sizes indicating that in some cases bigger logs were used for supporting the roofs, as at Sonapur<sup>243</sup> and Atranjikhērā<sup>244</sup> (Plate: XCI). At Atranjikhērā a posthole of 10 cm diameter was noticed on a floor to receive a thick post of wood or bamboo. Holes of smaller diameter were meant for thinner poles to support rafters and minor structures. The layout of the poles also indicated the shape and size of the room. Six, unequally spaced postholes were found at Campā<sup>245</sup> along with traces of upright wooden posts. At Tripurī<sup>246</sup> also charred wooden poles were found in a firepit (2nd B.C.).

##### (ii) Tiles

The tiles were fixed one over the other with clay mortar mixed with husk as found at Sohagaura.<sup>247</sup> Tiles were often grooved and perforated for affording firm joint. Tiles at Balirājgadh<sup>248</sup> and Rājghat<sup>249</sup> show a circular hole in the centre and a deep groove on one side for securing the other side. From Ujjain<sup>250</sup> oblong terracotta tiles were reported having double perforations for fixing in position. The evidences from Tripurī<sup>251</sup> and Rājghat<sup>252</sup> indicate that the tiles were fixed on the rafters with iron nails. An example of tiled roof has been shown in a medallion on a pillar of Sañci Stūpa 2.<sup>253</sup> In this medallion an elephant with rider is coming out of a building having tiled roof. However, ordinary men had thatched roofs as is clear from the evidence of Tripurī<sup>254</sup> and from sculptures of Śunga period (Plate: XCIII-A). In a half medallion from Mathura<sup>255</sup> a man has been shown sitting in front of a Parnaśala. A house shaped votive tank found at Sonkh<sup>256</sup> gives a clue of vaulted roofs prevalent in those days. At Patnā<sup>257</sup> vaulted roofs were constructed by a series of curved wooden ribs or grains placed in close order.

##### (I) Doors and windows

Doors were furnished with door posts and lintels (?) with hollows in the base like a



mortar for smooth revolving of the door. Rings on the door for the bolt has also been noticed.<sup>258</sup>

A Door jamb belonging to Śunga period found at Mathurā, is now housed in the Lucknow Museum. It is carved with a lotus creeper on one side and a vine creeper on the other.

The windows are stated to be of three kinds according as they are made with railings, lattices and slips of wood.<sup>259</sup>

In spite this, Rhys Davids and Oldenberge,<sup>260</sup> would say that 'there were, of course, no window in the modern sense, but only spaces left in the wall to admit light and air and covered by lattices of three kinds.'

But from Mathurā<sup>261</sup> a pierced screen with floral pattern has been found. It belongs to 1st cent. B.C. It probably served as a window (Plate: LXXXVIII-B). Different parts of dwelling houses have been found from different places, all in stone. Among them are door jamb<sup>262</sup> and, lintel fragments.<sup>263</sup> A few other architectural fragments have also been found but their place of use could not be traced.<sup>264</sup>

### (J) Stairway

There were stairs of three kinds, namely, brick stairs, stone stairs and wooden stairs.<sup>265</sup> A more detailed description of flights of stairs is given in the *Mahā-Sūdasana-Sūta*: 'Each of these had posts or banisters; crossbars let into these banisters; and a headline running along the top of the banisters or a figurehead at the lower end of such a head-line'.<sup>266</sup>

During excavations also, houses have given indications of stairways. A low flight of steps consisting of kiln-burnt bricks to approach rooms or platforms have been found at Campā<sup>267</sup> and Katragadh.<sup>268</sup> At Kauśāmbi,<sup>269</sup> a flight of steps built of stone blocks set in lime and mortar was found from central hall of the palace to the tower. While at Piparāhwa<sup>270</sup> a flight of steps was there to approach monastic cells.

### (K) Domestic wells

A large number of domestic wells made of terracotta rings were found at a number of sites, including Manwan,<sup>271</sup> Sonkh,<sup>272</sup> Prahlādpur,<sup>273</sup> Rājghāt,<sup>274</sup> Ujjain,<sup>275</sup> Atranjikherā<sup>276</sup> and Hastināpur.<sup>277</sup> Majority of wells were made of terracotta rings sunk quite deep upto the natural soil. The terracotta rings used in such wells were of uniform size and diameter. At Atranjikherā,<sup>278</sup> two such ring wells with extents of twenty and fourteen rings respectively were unearthed.

Hastināpur<sup>279</sup> provided still better evidence. Wells made of burnt-bricks were also noticed at several sites. At Ujjain<sup>280</sup> a 45' deep well was excavated. This was constructed with wedge shaped bricks and 165 courses were found intact. At Rājghāt<sup>281</sup> a well made with the help of both rings and bricks was found. It was raised by addition of a terracotta ring and seventeen courses of bricks during Śunga period although it was originally a small domestic well lined by bricks. At Prahlādpur,<sup>282</sup> a brick made well having a diameter of 160 cms was found. In this case top two courses were made of wedge shaped bricks. At Manwan,<sup>283</sup> a brick well had a very long life surviving at least three successive periods.

At Sonkh,<sup>284</sup> a well was found inside a separate house, probably to indicate a joint water supply for the community.

### (1) Soakage, wells

Utmost care was given to the sanitary arrangements in the Mauryan times. City planners

wall was found at Ujjain.<sup>370</sup> Perhaps associated with it was a brick lined channel 36 feet wide at top and 8 feet 6 inches at the base. According to the excavator it belonged to the Mauryan period. The third evidence came from Ruper,<sup>371</sup> where a 12 feet wide and 2.5 feet high brick wall of 12 courses having an extent length of 250 feet with curves at both ends was exposed. It was actually a rainfed large tank which had a provision of brick built inlet. At Vaiśālī<sup>372</sup> no wall existed at the top of the tank embankment. Instead one 3 feet 4 inches wide wall was found along its slope. Its foundation with one or two courses of uniform sized bricks showed that it was built in one operation. The original tank of Lichchhavis might have been smaller one which was subsequently enlarged and surrounded by a wall in 2nd cent. B.C.

Such reservoirs are indicative of proper town planning with a provision of regular water supply to the habitants.

Kautilya's Arthaśāstra<sup>373</sup> also mentions that "the king shall construct reservoirs or encourage individuals and co-operatives to do so." These reservoirs were used for fishing, ferrying and trading in vegetables.

#### (d) Barns

At Atranjikhhera<sup>374</sup> some storage barns (Plate: XCI) were also found in individual houses during excavation. These barns have signs of post holes for thatched roofings. Generally the food stuffs and grains were stored for domestic purposes in storage jars. At Atranjikhherā, a big storage jar was found buried on one side of a kitchen referred to above. Its mouth was levelled with the floor surface for convenience. However, different types of barns were made to store the grains in the houses. Atranjikhherā has revealed at least three different types of barns:

- (1) In one case a big trough was first buried and subsequently its rim was capped with burnt bricks including those of the wedge shaped.<sup>375</sup>
- (2) In another type, terracotta rings were used to make the barn. They looked like squattish ring wells.<sup>376</sup>
- (3) However, the third type which belonged to the last phase was quite interesting. This was circular in shape, dug deep in the floor, its edges were capped with burnt bricks.<sup>377</sup> Circular post holes around it suggest that it had a tiled roof over it.

At Campā,<sup>378</sup> two shallow well like structures were found. At Mathurā,<sup>379</sup> circular pits in mud floors were found. These were probably meant for storage purposes.

#### (e) Granary

An essential feature of urbanization is surplus production. The grain remains and agricultural tools found during Mauryan period as well as literary sources amply prove that agriculture was one of the main professions at that time.

Obviously the surplus grain would have been stored in private and public granary. Atranjikhhera<sup>380</sup> has for the first time brought to light a granary (Plate: XCII) of this period. It was found divided into three cells by partition walls of wattle and daub having thick mud plaster on either side. Each cell was rectangular in shape. This granary was somehow burnt in devastating fire and heaps of charred grains were found inside the granary.

Presence of granaries was also confirmed at Sohagaura.<sup>381</sup> An inscribed copper plate ordering Mahāmātrās for the maintenance of two royal store houses and state granaries, was found at Sohagaura.

*(f) Basin*

From Ujjain<sup>382</sup> a small structure of disintegrated lime stone was excavated. It consisted of a small basin (20"x20"x16") provided with pipes. The wall of the basin was about 3 cms thick. Its purpose could not be obtained.

*(g) Funeral ground*

Two kinds of funeral grounds have been described in Buddhist literature. In first case the corpses were left for natural process of decomposition or to be eaten up by carnivorous beasts like crows, vultures and jackals. In second case the bodies were burnt on funeral pyres. Both types of funerals have been depicted in Bharhut<sup>383</sup> sculptures. At Rājgir,<sup>384</sup> a cairn circle was found. It was oval in plan. It was constructed with rubbles of small to medium size. The cairn circle enclosed a damaged urn-burial. Urn was of dull red ware of medium fabric. It contained a few charred bone pieces, a bead of banded agate and an uninscribed rectangular cast coin.

## 6. RELIGIOUS BUILDINGS

The architecture and sculpture of this period were closely associated because they (sculptures) were never and nowhere used for secular purposes and only used for religious purposes.<sup>385</sup>

First two Mauryan kings Chandragupta and Bindusāra did not adopt the Buddhist doctrine. Aśoka, the third Mauryan king was the first Buddhist king, according to his inscriptions.<sup>386</sup> That is why the earliest Buddhist monuments in India are attributed to Aśoka. He is credited with four main types of monuments viz. 1. Pillars, 2. Stūpas, 3. Railings, 4. Caityas and Vihāras.

*(a) Pillars*

Aśoka is remembered for by a number of monolithic pillars, erected by him. A few have survived.<sup>387</sup> Among them are Allahabad, Lauriya Araraj, Lauria Nandangarh (Plate: LXX-A), Rāmpurvā (with lion capital), Sāncī (with four lion capital), Sārnāth (with a four lion capital, originally surmounted by a dharma cakra),<sup>388</sup> Rummindei (with horse capital ?), Nigliva and two pillars removed to Delhi by Sultān Firoz-Tuglak in 1356, of which one originally stood at Meerut and the other at Topra in Ambala District.<sup>389</sup>

All these ten pillars are inscribed. Three uninscribed pillars have also been taken to be Mauryan on the basis of their bright polish. They are at (1) Bakhira (Vaiśālī, with lion capital); (2) Sankisā (with elephant capital) and (3) Rāmpurvā (with a bull capital) (Plate: LXX-B).

An inscribed pillar without capital has been discovered at Kauśāmbī. It also has characteristic Mauryan polish.

These pillars are made of Chunar stone all bearing highly lustrous polish. They are 10-15 meters high tapering monolithic pillars. All had ornamental capitals surmounted by powerful animal sculptures<sup>390</sup> of symbolic significance such as lions, elephants, bulls, etc.

A number of pillar capitals have been found at Besnagar.<sup>391</sup> These capitals along with missing ones must have adorned the tops of pillars. They may have religious significance as well as might have been inscribed too. The fragments of inscribed pillar discovered in a street of Bhilsā (Vidiśā) town belonged to one of the pillars once standing here. The inscribed fragment also makes a mention of Garuḍa-dhvaja. It is supposed that out of the seven pillars

in a row, two pillars with Garuda capitals marked the extreme ends; the Heliodoros pillar being in the north and the other in the south.

The Lion pillar from Kolhua<sup>392</sup> is entirely free standing shaft which is 12.65 meters in height. The pillar is highly polished except 1.68 meter lower portion from the base. Excavation revealed a bottom stone on which the pillar was found standing.

Pataliputra excavations have also revealed good informations. A vertical section of the shaft of a broken Aśokan pillar<sup>393</sup> was found. It was 3.5 feet long and 2.5 feet in diameter giving a circumference of about 7 feet and 7 inches. It rested on a stratum of broken pieces of bricks and mortar together with numerous other splinters of its stones. Two more similar large fragments were found with a cart load of sharply shivered chips of pillars. None of the portions bore any inscriptions. It was one of the two pillars of Aśoka.

Another massive sandstone pillar from Pataliputra<sup>394</sup> about 5 feet long and 3 feet 6 inches in breadth, seems to be the base of a pillar. It has a vase shaped torus surmounting its square stem, from which it is separated by two stepped plinths and a constricting band of rope ornament while the upper margin of vase is decorated with the conventional Greek petals and the ionic beaded moulding of the same type as on the coping stones of the railing. One face of square stem bears two lines of indistinct circular character, somewhat like Burmese.

South to Chaman Talao (Pataliputra)<sup>395</sup> were recovered some fragments of polished sandstone and taken to be of Aśokan manufacture. These were identified as fragments of a particular Aśokan pillar for which there is literary evidence by Hiuen-Tsang, as one of the two columns namely 'Jambūdvīpa' column and 'Nīli' column.

Near Kalutank (Pataliputra)<sup>396</sup> pillar fragments showing polished surface were found and ascribed to Aśoka. Fragments varied widely in colour, ranging from red tone to a natural grey and too many in number, making it doubtful if they all belonged to one column only. Its diameter was noticeably less than that of the Aśokan pillar at Bakhīrā. A fragment from top of a pillar containing a part of the deep round orifice intended to take the metal bolt which held in place the capital or surmounted columns. The diameter of the pillar at the top was only 20 inches while Bakhīrā column measures over 3 feet.

At Śāh Kamāl road site (Pataliputra)<sup>397</sup> also appears the possibility of the existence of a polished pillar, free standing or otherwise, due to the sand stone pieces, one 6x3 feet showing the typical Maurya polish and bearing bead and reel pattern.

At Bairat<sup>398</sup> a heap of polished and unpolished pieces of stone, were found. They were no doubt part of one or more pillars.

At Mainahai, Allahabad<sup>399</sup> fragments of pillars and capitals were found. They were made of either red or buff sandstone. These capitals and fragments of tapering pillars resemble Mauryan pillars in polish and composition. Their new features were (i) an additional circular spigot on the abacus to be fitted in the socket of the surmounting figure, (ii) the introduction of the new technique of making the entire capital into two separate parts against the monolithic technique of Mauryan tradition, (iii) the depiction of certain animals on the abacus such as camel, rhinoceros, etc. A minor deviation in the proportion between the height and diameter of the capital is also there. The figures on the abacus were in very low relief and do not depict the typical Mauryan form of delineation. Honey suckle motif was found on it. Besides the bell-shaped capital, a square pinnacle, in the shape of a fan shaped palm was discovered. It resembles with the pinnacle from Besnagar, with the difference that the latter does not bear the bunches of palm fruits. A massive standing bull in the round was also found from Mainahai.<sup>400</sup> Its head and portions of all the four legs below ankles are broken. Round the

neck was a richly decorated necklace of three threads. Possibility of its purpose as pillar capital cannot be denied.

The Aśokan column at Sarnath<sup>401</sup> was once 15.25 meters high. Its *Dharmacakra* was fitted above the heads of four lions, on a contrivance inserted into a groove in the centre. The portion of the pillar embedded in the ground is rough and rests on a large flat stone of 20.3x15.2x45.7 cms in size. The shaft of the pillar is 71.1 cm in diameter at the base and 55.9 cm at the top.

These pillars were erected at places associated with events in the Buddha's life or marking pilgrim routes to holy places.<sup>402</sup>

### (b) Stūpas

The word Stūpa applies to a domical structure built over sacred relics of Buddha or other saints. It consists of a circular or square base supporting a dome, on which stands a square block or neck representing a box to hold a relic.<sup>403</sup> It is crowned by a capital consisting of a number of flat tiles. Above this is the umbrella, either single or with several roofs, usually three, over one another.<sup>404</sup>

These stūpas came to be looked upon as an object of Buddhist cult worship by the time of Aśoka. Before this time as Fahiān records, there were 8 reputed stūpas used to enshrine the last possession and remains of Buddha. Aśoka opened them and distributed the relics of Buddha among 84000 stūpas of his own construction.<sup>405</sup> At Lauriya 3 rows of Fifteen stūpa mounds were found. The first begins near the inscribed pillar of Aśoka and runs east to west and the other two rows are at right angle to the first group. Two of them yielded a deposit of burnt bones. These were regarded to be vedic burials by Bloch but there is no evidence to support this. They were the stūpas of mud or sundried bricks with baked brick revetments. Only in two cases actual brick lining was found.<sup>406</sup> Recently at Nandangarh a stūpa has been explored. It resembles terraced temples and Burmese pagodas. The centre of the stūpa was found filled with earth and many terracotta figurines along with some punch marked and cast copper coins of 1st cent. B.C.<sup>407</sup>

At Vaiśālī,<sup>408</sup> a stūpa was excavated by Altekar. It was built in Pre-Mauryan times and was enlarged four times. The original stūpa was 25 feet in diameter. It was built of piled up mud separated from one another by thin layers of claddy clay, over a deposit containing NBPW Sherds of NBPW were also found in the core of stūpa as well as the deposits between the stūpa and its first enlargement. In first enlargement burnt bricks (15x9x2) inch were used. Fragments of polished Chunar sandstone suggested that its first enlargement was done in the reign of Aśoka. The breach confirms the account of Hiuēn Tsāng that it was opened by Aśoka for the relics. The breach on the western side of the first enlargement may be ascribed to Post-Aśokan ruler. The casket bears no inscription.<sup>409</sup> The second and third enlargements were of reused bricks and brickbats, finally increasing the diameter to 40 feet. The third enlargement belonged to 1st B.C.<sup>410</sup> Two mud stūpas were also found near Aśokan pillar.<sup>411</sup> These belong to pre-Christian era. Near Chaturmukh temple a mud stūpa was exposed to a depth of five feet. Its radius at the base was 27 feet.<sup>412</sup> At Sañci,<sup>413</sup> there was a group of stupas. The largest stūpa is a massive, solid brick and stone building of 121 feet in diameter and 53.5 feet high. On the top of the building was a terrace, enclosed by a stone railing. The ascent to the ramp which surrounds the building was reached by a double stair on the south side. The railings of this and the other stūpa have inscriptions on them. The letters of these inscriptions are ascribed to Aśoka's time.<sup>414</sup> The original nucleus of the largest stūpa is attributed to Aśoka.

It was a brick structure of about half the size of the present stūpa. It was built of large bricks. It was hemispherical in shape with a raised terrace at the base, enclosed by a wooden railing and a stone umbrella. Pieces of umbrella were recovered from the site.<sup>415</sup> The masonry of the dome and terraces was originally covered with plaster decorated with colour.<sup>416</sup>

Bairat<sup>417</sup> also had remains of a Mauryan Brick Stūpa. Only bits of foundation have survived along with pieces of stone umbrella and a bowl bearing typical Mauryan polish.

At Sarnāth, two stūpas are there, naming Dhamekh and Dharmarājika stūpas. The original Dhamekh stūpa<sup>418</sup> was in mud and brick. It was made of Mauryan bricks and was probably raised by Aśoka to mark the place of Buddha's first sermon. The excavation of Dharmarājika stūpa built by Aśoka revealed six successive enlargements of the original stūpa.<sup>419</sup> The original stūpa raised by Aśoka was 13.49 meters in diameter. The bricks were of 49.5x36.8x6.4 cms. and others, slightly wedge shaped of 41.9x31.7x8.8 cms. in size. The enlargements were made between the period of Kuṣāns and Guptas. Inside it was found a large round stonebox with a green marble relic casket. A plain chunar sandstone railing<sup>420</sup> cut-out of a single block, each side of which was 2.54 m in length and 1.45 m. in height was also found at the site. It must have been once placed on the top of the Dharmarājika stūpa. It has a bright polish, characteristic of Aśoka. The Mauryan stūpa at Śrāvastī<sup>421</sup> yielded a sand stone casket containing bone relics together with a gold leaf and a silver punch marked coin.

The dome of the stūpa at Bharhut<sup>422</sup> resembles like a bell in which the ratio of the diameter and height is less than in stūpas of later period. The original stūpa by Aśoka was 68 feet in diameter. Hiuen-Tsang credits Aśoka for the construction of a stūpa at Ghosītārāma monastery in Kauśāmbī.<sup>423</sup> The main stūpa at Kolhua<sup>424</sup> was surrounded by miniature stūpas. In the earliest phase the main stūpa was plastered with lime. In the second phase 'Pradakṣhiṇāpath' was shortened and its floor was subsequently raised. In the final phase the stūpa was enlarged by another brick casing. The last enlargement was made over a rammed floor made of lime and surkhī. The miniature stūpas surrounding the main stūpa were of different plan and dimensions. There was also a Pradakṣhiṇāpath between the main stūpa and the miniature stūpas. Some miniature stūpas were also found plastered. At the centre of the stūpa, there was a double walled square relic chamber. The core of stūpa was built of bricks laid in criss-cross fashion while the encasing masonry showed courses laid in headers and stretchers. Pātaliputra showed remains of more than one stūpa. The higher mound of ruined stūpa at Cou pahāḍī,<sup>425</sup> is surrounded by several terraces of brick ruins and a portion of a carved basalt facing of a stūpa. It was probably the original great relic stūpa.<sup>426</sup> It contains inscriptions of immense historical importance. A collection of 'five stūpas' at the south of the palace and an artificial hillock built by Aśoka for his young brother Mahendra at the north of the palace were among others.<sup>427</sup> At Piprahwa<sup>428</sup> in a section along the western slope of the stūpa a relic casket was found. It revealed that the original stupa was also rebuilt on subsequent occasions. Several votive stupas were also found on south western side. At Singhol,<sup>429</sup> a *dharma-cakra* pattern plan of a Buddhist stūpa alongwith an enclosure and a number of other structures, was found. The spokes of wheel were represented by brick walls radiating from the central column or hub of the structure. These radial walls were intersected by three successive circular walls. The peripheral circular wall was made of one header only, possibly terminated on a terrace running round the hemispherical dome of the stupa. The interspaces of spokes were filled with packing material of Kaṅkaḍ and earth. A lid with a Kharoṣṭī legend on it, was recovered. The legend is of 1st-2nd cent. B.C. From the central portion of the stūpa a human tooth, ashes and some bones were found.

At Taxila,<sup>430</sup> the *dharmarājika* stūpa stands outside the three cities, built on a high podium with a core of rough rubble. It is circular in plan and hemispherical in elevation. The original stūpa, inside the core was probably erected by Aśoka. There is a stūpa, in the southern portion of Sirkap on the Hathial spur.

### (c) Railing

The railings are one of the important features of the Buddhist architecture. Generally they are found surrounding topes but they are also represented as enclosing sacred trees, temples, pillars and other objects.<sup>431</sup> The earliest railing may go back to 2nd-1st B.C. These were either plain or ornamented. To judge from the detached members, it consists of a series of uprights connected together by three cross bars and crowned by a running coping.<sup>432</sup> At Bharhut and elsewhere these railings were an imitation in stone of a post and rail fence with lens shaped rails fitted to openings in the uprights.<sup>433</sup> At Sarnāth,<sup>434</sup> the excavations have revealed more than a dozen railing-pillars of about first century B.C. These might have formed part of a stone railings meant for surrounding the stupa. Another fragmentary railing pillar has two inscriptions, one of which belongs to second century B.C.<sup>435</sup> Another railing of three pillars has also been found from the same site<sup>436</sup> belonging to first century B.C. They are decorated with various sacred symbols. At Bodhgaya,<sup>437</sup> a portion of a sandstone railing was found belonging to Śunga period. It encircled the sacred Bodhi-tree. It was slightly smaller than Bharhut railing having a height of 6 feet and 8 in. It was carved with bas reliefs, typical of the age. At Sāncī,<sup>438</sup> the original Aśokan wooden palisade enclosing the processional path was replaced by a plain stone railing during Śunga period. It was 11 inches high with an entrance at each of the cardinal points. Its up-rights consisted of octagonal posts, 9 inches high from ground level and placed at 2 inch interval. Connecting these posts were three horizontal rails or bars each two feet wide and separated only by a narrow space of three and a quarter inches. Over all was placed an immense beam, its upper side rounded, forming a coping stone to the whole. The shapes and joints were those, usually employed by carpenters. Bharhut<sup>439</sup> railings are different from those of Sāncī ones. They are richly carved with bas-reliefs depicting scenes from *Jatakas*. At Pataliputra, on a little mound<sup>440</sup> the coping stone of a Buddhist railing was found. Two separate old railings of sandstone were also found. One of them badly weathered had ruder designs. A plastered brick-terrace, having the bases of five broken sandstone posts of a railing, were also found from Pataliputra.<sup>441</sup> The pillars were 8.5 inch in breadth and 6.5 inch in thickness. Their cross bars were oval in shape. Both bars and posts were plain.<sup>442</sup> Another railing, with primitive appearance was found from Pataliputra. Its crossbars were rectangular and were let into very small mortised sockets as in ordinary wood work.

Another railing<sup>443</sup> of which only two posts, a portion of the coping stone and several bars have been found. These are of a fine grained whitish sand stone. A railing<sup>444</sup> from Pataliputra was found inserted in ground directly or in a plastered plinth without any stone basement. Rails are of small size. In case of richly ornamented rails with ovoid bars, discs on pillars are 8 inches in diameter while those of the bar is 10 inches.

A railing from Kankalitila, Mathura<sup>445</sup> shows oblong uprights at the entrance. Its three faces are heavily decorated with carved creepers and flowers. The fourth uncarved side had three lenticular sockets for cross-bars. One of the carved faces of this particular post bears two lenticular sockets, probably subsequent provision.<sup>446</sup> Kankalitila<sup>447</sup> has also yielded a large number of lenticular bars in two different sizes. They bear medallions with different motifs.

Several heavy coping stones ascribable to 1st cent. B.C. were also found from the same site.<sup>448</sup> They are in two registers. The upper one is thicker and projecting over the lower one.

(d) *Shrines and Monasteries*

(Caityas and Vihāras)

Shrines or Caityas were the temples. These were constructed for the purpose of worship possessing a passage round it for circumambulation.<sup>449</sup> All the structures of the nature of sanctuaries are chaityas, so that sacred trees, statues, religious inscriptions and sacred places also come under this general name. But it has further been restricted so as to correspond with the churches of the Christian religion.<sup>450</sup> Their plan, the position of the altar or relic casket, the aisles and other peculiarities are the same in both.<sup>451</sup> Many Caityas and Vihāras were built in secluded hills, far from the rush of life. The caitya halls are examples of skilled architecture though simple in construction. It is apparent that they were replicas in stone of earlier wood work.<sup>452</sup> The vihāras were the monasteries for the accommodation of monks living together in communities and were mostly connected with Caityas.<sup>453</sup> Originally vihāra referred to a simple monk cell, possibly a natural opening in a cliff. Later they took the form of a monastery with entirely constructed cells, usually around a courtyard. But then another development took place, viharas were cut out of natural rock formations—large caves with many cells facing an inside hall.<sup>454</sup> Most of these Caityas and vihāras were constructed adjacent to stūpas because stūpas became the point of attraction in those times.<sup>455</sup> Of the earliest shrine, attributed to Aśoka is only the Vajrāsana or the sand stone throne at Bodhgayā with characteristic Mauryan polish and decorative designs.<sup>456</sup> At Pataliputra<sup>457</sup> a large wall 3.5 feet thick formed of bricks with foundation 8 feet below the surface was found. It formed portion of a large building possibly a vihāra. It had a plastered brick pavement. The whole site consists of traces of brick foundations.

Kumrahar had successive monasteries. At monastery-cum-sanitorium, 'Ārogya-vihāra'<sup>458</sup> the rooms of monastic type belonged to 100 B.C. to 300 A.D. Traces of several walls and plastered platforms of a large building "the hill of the mendicant monk" may be one of the hundred monasteries to which Hiuen-Tsang refers.<sup>459</sup> The two oldest monasteries<sup>460</sup> of Pataliputra appear to be "the monastery of cock-Kukkutārama and the Aśokārama. At Piprahwa<sup>461</sup> a monastery having seventeen rooms was found. The structure showed four building phases, out of which only 2nd falls in our period of study. It was built of baked bricks set in lime mortar. In the north western part an extensive flooring of baked bricks, enclosed by walls on all sides might be serving the purpose of a public hall. At the same site<sup>462</sup> over the ruins of a large house monastic cells were built in two stages around a central courtyard and a varandah of baked bricks.

However, at Ganwaria<sup>463</sup> a ring well was there in the Gallery. Rooms and Galleries were constructed all around an open courtyard. The entrance of the structural complex is not towards the stūpa as is the case in all the monasteries at Piprahwa. At Jivakamravana site, Rājgir<sup>464</sup> two elliptical halls were found, out of which one belonged to earlier and the other to later phase. The later had a long elliptical hall in the centre with subsidiary rooms surrounded by a compound wall. A few more buildings,<sup>465</sup> of which another elliptical structure was running parallel to the one found last year. It was having two large halls, of unknown dimensions and plan. Several other<sup>466</sup> additional elliptical and oblong structures built of stones and brick were found. Ghoshitarama,<sup>467</sup> the famous monastery of Kauśāmbī was built during 6th-5th B.C. or so but it was enlarged in this period.



At Taxila,<sup>468</sup> on the Hathial spur in southern portion of Sirkap near the stūpa is a monastery. Bairat<sup>469</sup> excavations also revealed a monastery built during Mauryan period. An apsidal Caitya hall has been reported from Sarnath.<sup>470</sup> It was 25 meters in length and 11.58 meters in width, with a semi-circular apse at its back. Antiquities range from Maurya to Gupta period. At Sanghol<sup>471</sup> a monastery was also found near the stūpa mentioned earlier. From here, a broken portion of stone from gateway depicting jātaaka stories in red stone was found. On the basis of stylistic grounds, it can be placed to Śunga period.

### (c) Cave-resorts

Eight cave-resorts were attributed to Aśoka and his grandson Daśarath. Four were cut in Barabar hills, three in Nāgarjunt hill and only one at Sita Maḍhi near Gaya in Bihar. According to inscriptions these were made for Ajivika monks. These caves are parallel to the lie of the rock with an entrance at some convenient point along the linear scarp. The interior of these caves has the characteristic mirror like Mauryan polish. The three caves in Nāgarjunt hills are simpler having vaulted halls and trapezoid entrances with sloping jambs.<sup>472</sup> The four caves cut out of the rocks of the Barabar hills, near Gaya show the features of Mauryan wooden architecture.<sup>473</sup>

The Sudama cave<sup>474</sup> is without inscription but it has been dated in the twelfth year of Aśoka's reign. It consists of a circular chamber and an antichamber with side entrance. The two chambers are separated by a wall which, except for the narrow doorway, completes the circle of the inner shrine, and the upper part of this wall has overhanging caves representing thatch. The Lomaṣa-ṛṣi cave is a rectangular chamber with a barrel vault, and a chamber with a lateral facade, all cut out of the natural rock.<sup>475</sup> (Plate: XLIII-B). Its outer entrance has sloping jambs and a gabled porch carved in imitation of timber work on its arched top formed of two curved rafters.<sup>476</sup> The principal decoration of the so-called 'Caitya-window' of the over door, is a procession of elephants approaching a stūpa. The complete elevation of this miniature facade is repeated over and over again in the Caitya halls of Śunga and later periods.<sup>477</sup> Fergusson remarked with reference to the Mauryan Caitya cave at Bhaja in western India that the wooden features noticed there could not be used by anyone familiar with constructions in stone.<sup>478</sup> The continuity with Mauryan tradition may be observed in an arch over the door way of the facade of a cave in Udaygiri recalling the Lomaṣa-ṛṣi cave.<sup>479</sup> The rock cut caves follow the styles of wooden buildings with a series of cells and pillared verandas. The entrance to the cells have lintels decorated with a pattern of toraṇas. The double storied galleries are early instances of the multistoried mansions mentioned in the literature of the period.<sup>480</sup> The hermitages or religious abodes of the hermits and ascetics were founded generally away from localities, in pleasant woodlands adjoining a river or a lake, where roots and fruits were available. The *parṇaśālas* or leaf huts were the usual dwellings for them. Sometimes suitable caves were used for the same. Bharhut sculptures<sup>481</sup> depict such abodes. It presents to us the sites chosen neither very near nor very far from cities and towns for Buddhist monastic abodes, for example, Jetavana in the suburb of Śrāvastī; the mango grove of Jivaka in the suburb of Rājgrha, the *Nyagrodharama* in the suburb of Kapilavastu, etc.<sup>482</sup>

### (f) Temples

Some examples of Hindu temples also came to light during excavations. At Besnagar,<sup>483</sup> a temple was represented by two rows of grooves in an elliptical outline with a passage in between serving as *pradakṣhiṇāpath*. The plan of the grooves and the postholes show that the superstructure of the temple must have been made of timber. Outer groove was found to

project forward to form an *antarāla* in front of *garbha-grha* facing east. This temple was destroyed by the end of third century B.C. A temple built during Mauryan period came to light at Bairat.<sup>484</sup> It consisted of a circular brick built chamber, on the outer face of which were panels of plaster alternated with octagonal wooden columns. The chamber was enclosed by an encircling wall leaving an ambulatory passage around the central structure. At Rajghat<sup>485</sup> also a large brick built temple hall was found supported on twelve pillars.

Atranjikhera<sup>486</sup> also presented a good example of a temple (Plate: XCIV). Here a brick platform having a height of seven courses of burnt bricks was found within a four walled enclosure. Between the platform and the walled enclosure, there was a gallery having rammed earth floor levelled with the bottom of the platform. There was also a projecting stair of one step on eastern side. The bricks were laid in header and stretcher form but on the top surface of the platform they were laid in zig-zag fashion. It would be one of the earliest examples of an apsidal temple having its door in the east with a gallery for circumambulation around a platform meant for the presiding deity. At Pataliputra,<sup>487</sup> a sandstone relief of the sun-God in quasi-Greek style was found. At Pataliputra,<sup>488</sup> in Heretics or the Jain temple an inscription was found. It referred to a Jain Saint Sthūla-Bhadra; the patriarch of the early Jain church in the first part of 3rd century B.C. at the time when the canon of the *Śvetāmbara* sect was collected by the council or *Sangh* of Pataliputra.

#### NOTES & REFERENCES

1. *Milinda Panho* (tr.) by Rhys Davids, in the *Sacred Books of the East Series*, Vol. 4 (ed.) F. Maxmuller, p. 208.
2. P. K. Acharya, *Indian Architecture—Mānasāra, Series II*, pp. 143-44.
3. P. K. Acharya, *Hindu Architecture VI Mānasāra Series*, p. 65; cf. Rhys Davids *Buddhist India*, p. 42.
4. P. K. Acharya, *op. cit.*, p. 144.
5. A. Cunningham, *op. cit.*, cf. B. M. Barua, *op. cit.*
6. F. C. Maisey, *op. cit.*
7. A. Ghosh, *Archaeological remains, monuments and museums Part I*, p. 45.
8. A. L. Basham, *op. cit.*, p. 199.
9. John Marshall, *op. cit.*, p. 92.
10. *Ibid.*, p. 4.
11. J. W. Mc'Crindle, *op. cit.*, p. 67.
12. B. B. Lal, 'Sisupalgarh 1948 : an early historical fort in eastern India; *A.I.* no. 5 (1949), pp. 62-105.
13. A. L. Basham, *op. cit.*, p. 200.
14. Cf. S. S. Talwar, *IAR* 1970-71, p. 30.
15. A. N. Khanna, *Archaeology of India*, p. 88.
16. B. B. Lal, *A.I.* nos. 10 and 11.
17. A. K. Narain and T. N. Roy, *op. cit.*
18. L. A. Waddell, *op. cit.*, p. 21.
19. G. R. Shama, *op. cit.*
20. Cf. A. Ghosh, *A.I.*, No. 7.
21. Cf. Y. D. Shama, *A.I.*, No. 9.
22. J. W. McCrindle, *op. cit.*, p. 67; cf. R. C. Majumdar, *op. cit.*, pp. 68-69.
23. H. G. Rawlinson, *Intercourse between India and Western World*, p. 45.
24. R. C. Gaur, *op. cit.*, p. 256.
25. K. K. Sinha, *op. cit.*, pp. 11, 18-19.
26. R. Sham Sastry, *op. cit.*, pp. 50-51.
27. L. A. Waddell, *op. cit.*, pp. 19-20.
28. N. R. Banerjee, *IAR* 1955-56, p. 19 and *IAR* 1956-57, pp. 20-27.
29. Raghbir Singh, *IAR* 1961-62, pp. 7-8.
30. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 5-8.
31. G. R. Shama, *op. cit.*, pp. 38-39.

32. Percy Brown, *Indian Architecture* (Buddhist & Hindu), p. 4.
33. Cf. G. R. Sharma, *IAR* 1957-58, pp. 48-49.
34. Cf. B. K. Thapar, *IAR* 1974-75, p. 49.
35. Cf. M. Venkataramayya, *IAR* 1954-55, p. 15.
36. Cf. M. C. Joshi, *IAR* 1975-76, pp. 53-55.
37. K. K. Sinha, *IAR* 1958-59, pp. 47, 50.
38. K. K. Sinha, *op. cit.*, pp. 5-6.
39. R. Sham Sastry, *op. cit.*, ph. II. 3, pp. 50-53.
40. R. C. Gaur, *op. cit.*, p. 254.
41. *Ibid.*, p. 255.
42. *Ibid.*, p. 256.
43. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 5-8.
44. Raghbir Singh, *IAR* 1961-62, pp. 7-8.
45. V. K. Misra, *IAR* 1974-75, pp. 10-11.
46. R. C. Majumdar, *op. cit.*, p. 483.
47. N. R. Banerjee, *IAR* 1955-56, p. 19.
48. N. R. Banerjee, *IAR* 1956-57, pp. 20-27.
49. A. Ghosh and K. C. Panigrahi, *A.I.* No. 1 (January, 1946), p. 38.
50. McCrindle, *op. cit.*, Strabo xv, i; 35-36.
51. L. A. Waddell, *op. cit.*, pp. 21-22.
52. P. Brown, *op. cit.*, p. 4.
53. B. Rowland, *op. cit.*, p. 60.
54. M. Taddie, *op. cit.*, p. 42.
55. D. D. Kosambi, *op. cit.*, p. 160.
56. A. L. Srivastava, *op. cit.*, p. 50.
57. B. Rowland, *op. cit.*, p. 60.
58. M. Edwardes, *Everyday life in early India*, p. 54.
59. Cf. *Mahāvansa*, xxv. 48.
60. *Saundarānanda* I. 42.
61. P. Brown, *op. cit.*, p. 4.
62. H. G. Rawlinson, *op. cit.*, p. 45.
63. A. K. Narain and T. N. Roy, *op. cit.*
64. G. R. Sharma, *op. cit.*, pp. 38-39.
65. Cf. M. D. Khare, *IAR* 1964-65, 1976-77, pp. 19-20 and p. 33, respectively.
66. Cf. A. K. Narain, *IAR* 1976-77, p. 52.
67. & 68. *Chullavagga*, VI.4.10 (tr.) Rhys Davids and Oldenberg, p. 189 and 3.10 *TOSHAN* (tr.), p. 178. cf. P. K. Acharya, *op. cit.*, p. 71.
69. R. C. Majumdar, *op. cit.*, p. 484.
70. R. C. Majumdar, *Ibid.*, p. 485.
71. P. Brown, *op. cit.*, p. 4.
72. *Ibid.*
73. H. G. Rawlinson, *op. cit.*, p. 45.
74. L. A. Waddell, *op. cit.*, pp. 19-22.
75. Cf. G. R. Sharma, *IAR* 1956-57, pp. 28-29; *IAR* 1960-61, pp. 33-35.
76. Cf. G. R. Sharma, *IAR* 1959-60, p. 46.
77. R. C. Gaur, *op. cit.*, p. 255.
78. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.
79. Cf. Y. D. Sharma, *A.I.*, no. 9; pp. 131-135.
80. Cf. A. Ghosh, *A.I.*, No. 7, p. 66.
81. Cf. G. R. Sharma, *IAR* 1958-59, p. 46-47.
82. G. R. Sharma, *op. cit.*, (1960), p. 40.
83. Cf. N. R. Banerjee, *IAR* 1956-57, p. 27.
84. Cf. N. R. Banerjee, *IAR* 1957-58, pp. 34-36.
85. L. A. Waddell, *op. cit.*, pp. 29-35.
86. Cf. N. R. Banerjee, *IAR* 1955-56, pp. 11, 14.
87. J. Marshall, *op. cit.*, p. 4.
88. A. Ghosh, *The cities in Early Historical India*, p. 62.
89. A. L. Srivastava, *op. cit.*, p. 49.

90. P. Sen Gupta, *op. cit.*, pp. 69-70.
91. P. Brown, *op. cit.*, p. 4.
92. Cf. Y. D. Sharma; *A.I.* No. 9, pp. 146-147.
93. P. Brown, *op. cit.*, p. 7.
94. L. A. Waddell, *op. cit.*, pp. 22-23.
95. *Ibid.*, pp. 27-29.
96. Cf. K. P. Jayaswal, *IAR*, 1954-55.
97. *Ibid.*
98. D. B. Spooner, *ASI-AR* (1912-13), p. 59.
99. L. A. Waddell, *op. cit.*, p. 31.
100. Cf. Y. D. Sharma; *A.I.* no. 9, pp. 146-147.
101. *Ibid.*
102. L. A. Waddell, *op. cit.*, pp. 51-60.
103. Cf. G. R. Sharma, *IAR* 1960-61, pp. 33-35.
104. *Ibid.*, pp. 33-35.
105. Recently Sundara Rajan has rejected the claim of G. R. Sharma that the palaces with arches were of Kushan period. He opines that this structure belongs to Medieval period. The antiquity of defences at Kausambi has also been questioned by B. B. Lal. In view of these criticism Kausambi evidence seems doubtful. Cf. B. B. Lal and K. V. Sundara Rajan in *Puratattva*, No. 11, 1979-80, pp. 88-95 & 96-99.
106. Sham Sastry, *op. cit.*, p. 39.
107. P. K. Acharya, *Architecture of Manasara*, Vol. IV, Ch. XIX-XXX, pp. 222-286.
108. A. Cunningham, *op. cit.*, p. 118.
109. A. K. Coomaraswamy, *Early Indian Architecture : Palaces*, p. 12.
110. *Ibid.*, p. 12; fig. 2 cf. fig. 61.
111. *Ibid.*, p. 12, fig. 4.
112. *Ibid.*, (Sanchi north torana), fig. 5; (Sanchi west torana) fig. 6 & 9, (Sanchi east torana), fig. 7, 10 & 11.
113. *Ibid.*, pp. 12-13.
114. 296-15 in American Institute of Indian Studies, Varanasi.
115. Barua, *op. cit.*, p. 64.
116. *Ibid.*, p. 64.
117. Cf. R. C. Singh, *IAR* 1975-76, p. 52.
118. Cf. V. S. Vakankar, *IAR* 1967-68, p. 25.
119. Cf. K. D. Bajpai, *IAR* 1974-75, pp. 21-22.
120. Cf. K. D. Bajpai, *IAR* 1966-67, p. 18.
121. Cf. N. R. Banerjee, *IAR* 1956-57, pp. 20-27.
122. Cf. R. C. Singh, *IAR* 1975-76, p. 52.
123. Cf. V. S. Vakankar, *IAR* 1967-68, p. 25.
124. Cf. K. D. Bajpai, *IAR* 1974-75, pp. 21-22.
125. Cf. K. D. Bajpai, *IAR* 1966-67, p. 18.
126. Cf. N. R. Banerjee, *IAR* 1956-57, pp. 20-27.
127. A. K. Narain and T. N. Roy, *op. cit.*, p. 26.
128. R. C. Gaur, *op. cit.*, p. 249.
129. Cf. Y. D. Sharma, *A.I.* no. 9, pp. 131-135.
130. *Ibid.*, pp. 123-126.
131. Cf. K. D. Bajpai, *IAR* 1972-73, pp. 15-16.
132. Cf. N. R. Banerjee, *IAR* 1956-57, pp. 20-27.
133. Cf. M. D. Khare, *IAR* 1975-76, p. 31.
134. Cf. K. D. Bajpai, *IAR* 1975-76, p. 23.
135. A. K. Narain and T. N. Roy, *op. cit.*, p. 26.
136. Cf. Sita Ram Roy, *IAR* 1977-78, pp. 15-16.
137. Cf. G. R. Sharma, *IAR* 1957-58.
138. Cf. V. K. Misra, *IAR* 1955-56, p. 22.
139. Cf. B. B. Lal, *IAR* 1970-71, pp. 8 and 10.
140. Cf. Y. D. Sharma, *IAR* 1958-59, p. 54.
141. Cf. Romila Thapar, *IAR* 1970-71, p. 41.
142. Cf. B. B. Lal and K. N. Dixit, *IAR* 1978-79, p. 62.
143. R. C. Gaur, *op. cit.*, p. 434.

144. *Ibid.*, pp. 431-432.
145. *Ibid.*, p. 445.
146. G. R. Sharma, *op. cit.*, pp. 55-56.
147. R. C. Gaur, *op. cit.*, p. 432.
148. A. Ghosh, *A.I.* no. 4 (1948) plate XIX.22.
149. G. R. Sharma, *op. cit.*, pp. 55-56.
150. A. Ghosh, *A.I.* no. 4 (1948) plate XIX.22.
151. R. C. Gaur, *op. cit.*, p. 432.
152. Cf. K. M. Srivastava, *IAR* 1974-75, pp. 40-41.
153. R. C. Gaur, *op. cit.*, p. 434.
154. B. B. Lal, *A.I.* no. 10 and 11, p. 97.
155. G. R. Sharma, *op. cit.*, pp. 55-56.
156. R. C. Gaur, *op. cit.*, p. 434.
157. Cf. Sita Ram Roy, *IAR* 1974-75, p. 10.
158. Cf. M. D. Khare, *IAR* 1964-65, p. 19.
159. Cf. B. P. Sinha, *IAR* 1971-72, p. 6.
160. Cf. Sita Ram Roy, *IAR* 1977-78, p. 15.
161. Cf. Vijaya Kumar, *IAR* 1972-73, p. 30.
162. Cf. R. C. Singh, *IAR* 1976-77, p. 54.
163. Cf. B. P. Sinha, *IAR* 1966-67, p. 6.
164. Cf. Raghbir Singh, *IAR* 1974-75, p. 11.
165. Cf. K. P. Nautiyal, *IAR* 1978-79, p. 75.
166. Cf. A. S. Altekar, *IAR* 1959-60, p. 14.
167. K. K. Sinha, *op. cit.*, pp. 66-68.
168. Cf. K. D. Bajpai, *IAR* 1972-73, p. 16.
169. Cf. N. R. Banerjee, *IAR* 1957-58, p. 36.
170. R. C. Gaur, *op. cit.*, p. 435.
171. Cf. N. R. Banerjee, *IAR* 1963-64, p. 44.
172. Cf. S. N. Chaturvedi, *IAR* 1974-75, p. 47.
173. Cf. K. M. Srivastava, *IAR* 1974-75, pp. 40-41.
174. Cf. R. C. Singh, *IAR* 1976-77, p. 54.
175. R. C. Gaur, *op. cit.*, p. 435.
176. *Ibid.*
177. Cf. R. C. Singh, *IAR* 1975-76, p. 52.
178. Cf. K. M. Srivastava, *IAR* 1973-74, p. 27.
179. Cf. K. M. Srivastava, *IAR* 1974-75, pp. 39-40.
180. P. Brown, *op. cit.*, p. 7.
181. A. L. Basham, *op. cit.*, p. 202.
182. A. Cunningham, *op. cit.*, p. 122.
183. R. C. Gaur, *op. cit.*, pp. 249-252.
184. Cf. B. P. Sinha, *IAR* 1971-72, p. 5.
185. Cf. V. K. Misra, *IAR* 1955-56, p. 22.
186. M. Edwardes, *op. cit.*, p. 54.
187. A. L. Basham, *op. cit.*, p. 202.
188. A. K. Coomaraswamy, *History of Indian and Indonesian Art*.
189. *Chullavagga*, VI.4.10, Rhys Davids and Oldenberg, p. 189.
190. R. C. Gaur, *op. cit.*, p. 250.
191. *Ibid.*, pp. 252-253.
192. B. B. Lal, *A.I.* No. 10 & 11, pp. 15-17.
193. Cf. B. B. Lal, *IAR* 1970-71, pp. 8, 10.
194. Cf. A. K. Narain and T. N. Roy, *op. cit.*, p. 26.
195. Cf. B. B. Lal, *IAR* 1978-79, p. 59.
196. Cf. M. Venkataramayya, *IAR* 1954-55, p. 16.
197. R. C. Sharma, *Buddhist Art of Mathura*, p. 87.
198. Cf. B. P. Sinha, *IAR* 1975-76, p. 7.
199. Cf. V. S. Wakankar, *IAR* 1967-68, p. 25.
200. Cf. K. M. Srivastava, *IAR* 1976-77, p. 50.
201. B. M. Barua, *op. cit.*, p. 65.

202. R. C. Gaur, *op. cit.*, p. 250.
203. Romila Thapar, *IAR* 1970-71, p. 41.
204. Cf. Vijay Kumar, *IAR* 1964-65, p. 35; *IAR* 1965-66, p. 38.
205. Cf. A. K. Narain, *IAR* 1961-62, p. 58.
206. Cf. B. P. Sinha, *IAR* 1960-61, pp. 4-5.
207. Cf. M. C. Joshi, *IAR* 1976-77, p. 54.
208. Cf. K. N. Dixit, *IAR* 1978-79, p. 61.
209. Cf. N. R. Banerjee, *IAR* 1963-64, p. 44.
210. Cf. B. P. Sinha, *IAR* 1972-73, p. 6.
211. Cf. K. P. Nautiyal, *IAR* 1978-79, p. 75.
212. Cf. B. P. Sinha, *IAR* 1966-67, p. 6.
213. K. Krishnamurty, *op. cit.*, p. 141.
214. Cf. N. R. Banerjee, *IAR* 1963-64, p. 44.
215. Cf. B. P. Sinha, *IAR* 1964-65, p. 7.
216. Cf. B. B. Lal, *IAR* 1970-71, pp. 8-10.
217. Cf. K. D. Bajpai, *IAR* 1966-67, p. 18.
218. Cf. N. R. Banerjee, *IAR* 1964-65, p. 39.
219. Cf. R. B. Narain, *IAR* 1965-66, p. 51.
220. Cf. R. B. Narain, *IAR* 1965-66, p. 51.
221. Cf. B. K. Thapar, *IAR* 1975-76, pp. 53-55.
222. Cf. A. K. Narain, *IAR* 1960-61, p. 37.
223. R. C. Gaur, *op. cit.*, p. 252.
224. Cf. B. P. Sinha, *IAR* 1975-76, p. 7.
225. Cf. H. Haertel, *IAR* 1966-67, p. 42.
226. Cf. B. K. Thapar, *IAR* 1975-76, pp. 53-55.
227. Cf. B. B. Lal, *IAR* 1978-79, p. 59.
228. Cf. N. R. Banerjee, *IAR* 1956-57, pp. 20-27.
229. Cf. M. C. Joshi, *IAR* 1975-76, p. 55.
230. Cf. M. C. Joshi, *IAR* 1976-77, pp. 54-55.
231. P. K. Acharya, *op. cit.*, p. 72.
232. *Mahāvagga*, I.25.15 (Tr.) N. K. Bhagwat.
233. *Chullavagga*, VIII.3.I (Tr.) Rhys Davids and Oldenberg.
234. Rhys Davids and Oldenberg, Notes on *Chullavagga* VI.20.2 (Tr.), p. 218, I.
235. *Chullavagga*, VI.3.10 (Tr. p. 179) cf. P. K. Acharya, *op. cit.*, pp. 71-72.
236. Cf. B. P. Sinha, *IAR* 1970-71, p. 5.
237. Cf. R. B. Narain, *IAR* 1965-66, p. 51.
238. Cf. K. M. Srivastava, *IAR* 1976-77, p. 50.
239. Cf. A. K. Narain and T. N. Roy, *op. cit.*, p. 26.
240. Cf. B. P. Sinha, *IAR* 1970-71, p. 5-6.
241. Cf. B. K. Thapar, *IAR* 1975-76, pp. 53-55.
242. Cf. R. C. Gaur, *op. cit.*, p. 251.
243. Cf. B. P. Sinha, *IAR* 1970-71, pp. 5-6.
244. R. C. Gaur, *op. cit.*, p. 251.
245. B. P. Sinha, *IAR* 1970-71, p. 5; *IAR* 1971-72, p. 5.
246. K. D. Bajpai, *IAR* 1968-69, p. 12.
247. S. N. Chaturvedi, *IAR* 1974-75, p. 47.
248. Sita Ram Roy, *IAR* 1974-75, p. 10.
249. A. K. Narain and T. N. Roy, *op. cit.*, p. 26.
250. Cf. N. R. Banerjee, *IAR* 1956-57, p. 27.
251. Cf. M. G. Dixit, *IAR* 1965-66, p. 22.
252. Cf. A. K. Narain and T. N. Roy, *op. cit.*, p. 26.
253. Cf. Marshall and Foucher, *op. cit.*, plate XC-86 a.
254. Cf. M. G. Dixit, *IAR* 1965-66, p. 22.
255. 351.82 in American Institute of Indian Studies, Varanasi.
256. Cf. H. Haertel *IAR* 1966-67, p. 42.
257. P. Brown, *op. cit.*, p. 7.
258. *Chullavagga*, VI, 3.8 also 2.1 and 17.1, pp. 177, 161, 213.
259. *Chullavagga*, VI, 2 (2 tr.).

260. Rhys Davids and Oldenberge, *op. cit.*, VIII, 22 (Trans.) p. 279.  
 261. 15-63 in AHS.  
 262. Mathura Museum.  
 263. J. 484, Lucknow Museum, B-140b Lucknow Museum, M1 Mathura Museum, 52.3625 Mathura Museum.  
 264. 1.27 Mathura Museum; J 551, B 173, J 647 Lucknow Museum.  
 265. *Chullavagga V*, 11.6 (Tr.) p. 96.  
 266. *Mahasudassana Sutta*, I, 59, also see R. Davids, *Buddhist Suttas*, p. 262 and cf. *Chullavagga*, VI, 3.3 (Tr.).  
 267. Cf. B. P. Sinha, *JAR* 1972-73, p. 6.  
 268. Cf. Sita Ram Roy, *JAR* 1977-78, pp. 15-16.  
 269. Cf. G. R. Sharma, *JAR* 1960-61, pp. 33-35; *JAR* 1963-64, p. 40.  
 270. Cf. K. M. Srivastava, *JAR* 1973-74, p. 27.  
 271. Dept. of Arch. U.P., *JAR* 1969-70, p. 44.  
 272. Cf. H. Haerfel, *JAR* 1970-71, pp. 39-40.  
 273. A. K. Narain and T. N. Roy, *op. cit.*  
 274. *Ibid.*  
 275. Cf. N. R. Banerjee, *JAR* 1956-57, pp. 20-24.  
 276. R. C. Gaur, *op. cit.*, pp. 249 & 252.  
 277. B. B. Lal, *A.I.* 10 & 11, pp. 25-26.  
 278. R. C. Gaur, *op. cit.*, pp. 249-252.  
 279. Cf. B. B. Lal, *A.I.* nos. 10 & 11, pp. 25-26.  
 280. Cf. N. R. Banerjee, *JAR* 1957-58, p. 36.  
 281. A. K. Narain and T. N. Roy, *JAR* 1960-61, p. 37.  
 282. A. K. Narain and T. N. Roy, *op. cit.*, pp. 10 & 11.  
 283. Dept. of Arch. U.P., *JAR* 1969-70, p. 44.  
 284. H. Haerfel, *JAR* 1970-71, p. 40.  
 285. Cf. Y. D. Sharma, *A.I.* No. 9, pp. 131-135.  
 286. Cf. Y. D. Sharma, *A.I.* no. 9, pp. 123-125.  
 287. Cf. B. Ch. Chhabra, *JAR* 1965-66, p. 36.  
 288. Cf. Y. D. Sharma, *JAR* 1958-59, p. 54.  
 289. Cf. B. B. Lal, *A.I.* No. 10 & 11, pp. 25-26.  
 290. Cf. M. C. Joshi, *JAR* 1976-77, p. 54.  
 291. Cf. R. C. Gaur, *JAR* 1962-63, pp. 35-36.  
 292. Cf. B. B. Lal, *JAR* 1954-55, p. 14.  
 293. Cf. N. R. Banerjee, *JAR* 1957-58, p. 36.  
 294. Cf. K. D. Bajpai, *JAR* 1972-73, pp. 15-16.  
 295. Cf. R. C. Agrawala, *JAR* 1954-55, p. 14.  
 296. Cf. M. D. Khare, *JAR* 1964-65, pp. 19-20.  
 297. Cf. A. K. Narain, *JAR* 1976-77, p. 52.  
 298. Cf. K. N. Dixit, *JAR* 1978-79, p. 62.  
 299. Cf. B. B. Lal, *JAR* 1978-79, p. 59.  
 300. Cf. R. B. Narain, *JAR* 1965-66, p. 51.  
 301. Cf. K. K. Sinha, *JAR* 1958-59, pp. 47 & 50.  
 302. Cf. G. C. Pande, *JAR* 1961-62, p. 56.  
 303. Cf. A. K. Narain, *JAR* 1967-68, p. 49.  
 304. A. K. Narain and T. N. Roy, *op. cit.*, p. 11.  
 305. Cf. V. K. Misra, *JAR* 1974-75, pp. 10-11.  
 306. Cf. B. P. Sinha, *JAR* 1970-71, pp. 5-6; *JAR* 1956-57, pp. 19-20.  
 307. Cf. B. P. Sinha, *JAR* 1970-71, p. 5.  
 308. Cf. V. K. Misra, *JAR* 1955-56, p. 22.  
 309. Cf. V. K. Misra, *JAR* 1974-75, pp. 10-11.  
 310. Cf. M. G. Dixit, *JAR* 1965-66, p. 22.  
 311. Cf. A. K. Narain, *JAR* 1976-77, p. 52.  
 312. Cf. K. N. Dixit, *JAR* 1978-79, p. 62.  
 313. Cf. R. B. Narain, *JAR* 1965-66, p. 51.  
 314. Cf. K. K. Sinha, *JAR* 1958-59, pp. 47 & 50.  
 315. Cf. G. C. Pande, *JAR* 1961-62, p. 56.  
 316. Cf. A. K. Narain, *JAR* 1967-68, p. 49.

317. A. K. Narain and T. N. Roy, *op. cit.*, p. 11.
318. Cf. B. P. Sinha, *IAR* 1970-71, pp. 5-6; *IAR* 1956-57, pp. 19-20.
319. Cf. V. K. Misra, *IAR* 1955-56, p. 22.
320. Cf. V. K. Misra, *IAR* 1974-75, pp. 10-11.
321. Cf. M. G. Dixit, *IAR* 1965-66, p. 22.
322. Cf. Y. D. Sharma, *A.I.* no. 9, pp. 123-125.
323. Cf. B. B. Lal, *A.I.* No. 10 & 11.
324. Cf. M. C. Joshi, *IAR* 1971-72, p. 54.
325. Cf. R. C. Gaur, *IAR* 1962-63, pp. 35-36.
326. Cf. B. B. Lal, *IAR* 1954-55, p. 14.
327. Cf. N. R. Banerjee, *IAR* 1957-58, p. 36.
328. Cf. K. D. Bajpai, *IAR* 1972-73; pp. 15-16.
329. Cf. R. C. Agrawala, *IAR* 1954-55, p. 14.
330. Cf. M. D. Khare, *IAR* 1964-65, pp. 19-20.
331. Cf. A. K. Narain, *IAR* 1976-77, p. 52 (Wedge shaped bricks were used).
332. Cf. B. P. Sinha, *IAR* 1974-75, pp. 8-9.
333. Cf. B. B. Lal, *IAR* 1978-79, p. 59.
334. Cf. A. K. Narain and T. N. Roy, *op. cit.*, p. 26.
335. Cf. Y. D. Sharma, *IAR* 1958-59, p. 54.
336. Cf. Narain and Roy, *op. cit.*, p. 26.
337. Y. D. Sharma, *IAR* 1958-59, p. 54.
338. Cf. B. Ch. Chhabra, *IAR* 1965-66, p. 36.
339. Cf. B. B. Lal, *IAR* 1970-71, pp. 8 & 10.
340. Cf. V. K. Misra, *IAR* 1955-56, p. 22.
341. Cf. N. R. Banerjee, *IAR* 1956-57, p. 27.
342. R. C. Sharma, *op. cit.*, p. 89.
343. A. K. Narain and T. N. Roy, *op. cit.*, p. 26.
344. Cf. B. B. Lal, *IAR* 1978-79, p. 59.
345. Cf. A. K. Narain, *IAR* 1976-77, p. 52.
346. Cf. B. P. Sinha, *IAR* 1974-75, pp. 8-9.
347. A. K. Narain and T. N. Roy, *op. cit.*, pp. 10 & 11.
348. Cf. M. D. Khare, *IAR* 1975-76, p. 31.
349. Cf. G. R. Sharma, *IAR* 1957-58, p. 48.
350. Cf. B. P. Sinha, *IAR* 1972-73, p. 6.
351. Cf. Sita Ram Roy, *IAR* 1976-77, p. 12.
352. Cf. Vijay Kumar, *IAR* 1965-66, p. 38; *IAR* 1968-69, p. 26.
353. Cf. A. K. Narain and T. N. Roy, *op. cit.*, pp. 26-27.
354. B. B. Lal, *A.I.* nos. 10 & 11 pp. 16-17.
355. Cf. V. C. Sharma, *Puratattva*, no. 11, 1979-80, pp. 148-149.
356. Cf. B. B. Lal, *IAR* 1970-71, pp. 8, 10.
357. R. C. Gaur, *op. cit.*
358. Cf. B. K. Thapar, *IAR* 1975-76, pp. 53-55.
359. Cf. H. Haertel, *IAR* 1966-67, p. 42.
360. A. K. Narain and T. N. Roy, *op. cit.*, pp. 26-27, plate VI.
361. R. C. Gaur, *op. cit.*, p. 248.
362. Cf. B. Ch. Chhabra, *IAR* 1965-66, p. 36.
363. L. A. Waddell, *op. cit.*, p. 41.
364. Cf. G. R. Sharma, *IAR* 1957-58, p. 48.
365. A. Ghosh, *op. cit.*, pp. 60-61.
366. L. A. Waddell, *op. cit.*, pp. 42-50.
367. Cf. K. M. Srivastava, *IAR* 1973-74, pp. 27-28.
368. Cf. A. C. Banerjee, *IAR* 1957-58, p. 11.
369. This reservoir may be identified with *Swnagadha* in pal literature cf. A. C. Banerjee, *IAR* 1957-58, p. 11.
370. Cf. N. R. Banerjee, *IAR* 1957-58, pp. 34-36.
371. Cf. Y. D. Sharma, *IAR* 1953-54, pp. 6-7; and *IAR* 1954-55, p. 9; cf. Y. D. Sharma, *A.I.* no. 9, pp. 123-126.
372. Cf. A. S. Altekar, *IAR* 1957-58, pp. 10-11.



373. R. Sham Sastry, *op. cit.*, pp. 46-47.  
 374. R. C. Gaur, *op. cit.*, pp. 248-253.  
 375. *Ibid.*, p. 248.  
 376. *Ibid.*, p. 248 & 252.  
 377. *Ibid.*, p. 253.  
 378. Cf. B. P. Sinha, *IAR* 1975-76, p. 7.  
 379. Cf. M. C. Joshi, *IAR* 1976-77, p. 54.  
 380. R. C. Gaur, *op. cit.*, p. 249.  
 381. Cf. J. F. Flect, *JRAS* (1907), 509-532.  
 382. Cf. K. M. Srivastava, *IAR* 1964-65, p. 18.  
 383. B. M. Barua, *op. cit.*, p. 65.  
 384. Cf. Vijay Kant Misra, *IAR* 1974-75, pp. 10 & 11.  
 385. Albert Grunwedel, *op. cit.*, pp. 1-26.  
 386. *Ibid.*  
 387. V. S. Agrawala, *op. cit.*, p. 63.  
 388. Now takes the proud place of the National emblem of India cf. *A.I.* no. 9, p. 143.  
 389. V. S. Agrawala, *op. cit.*, p. 63.  
 390. A. Ghosh, *op. cit.*, pp. 86-87.  
 391. Cf. M. D. Khare, *IAR* 1965-66, pp. 23-24.  
 392. Cf. V. K. Misra, *IAR* 1976-77, p. 13.  
 393. Cf. L. A. Waddell, *op. cit.*, pp. 29-35.  
 394. *Ibid.*, pp. 41-42.  
 395. Cf. D. B. Spooner, *ASI-AR* 1912-13, p. 55.  
 396. *Ibid.*, p. 57.  
 397. Cf. Vijay Kant Misra, *IAR* 1955-56, p. 22, plate XXXII-B.  
 398. Cf. Y. D. Sharma, *A.I.* no. 9, p. 153.  
 399. Cf. G. R. Sharma, *IAR* 1963-64, p. 42.  
 400. Cf. G. R. Sharma, *IAR* 1963-65, p. 42.  
 401. V. S. Agrawala, *Samath*, p. 20.  
 402. Roy, C. Craven, *A concise History of Indian Art*, pp. 38-39.  
 403. A. Grunwedel, *op. cit.*, pp. 1-26.  
 404. *Ibid.*  
 405. Roy C. Craven, *op. cit.*, p. 38.  
 406. Bloch, *ASI-AR* 1904-5, p. 38 ff; 1906-7; p. 119 ff; 1935-36, p. 55 ff; 1936-37, p. 47 ff. cf. Y. D. Sharma, *A.I.* no. 9, p. 148.  
 407. Times of India, dated 31.1.1985.  
 408. Cf. A. S. Altekar, *IAR* 1957-58, p. 11.  
 409. *Ibid.*  
 410. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 5-8.  
 411. Cf. Sita Ram Roy, *IAR* 1959-60, p. 16.  
 412. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 5-8.  
 413. A. Grunwedel, *op. cit.*, pp. 1-26.  
 414. *Ibid.*  
 415. F. C. Maisey, *op. cit.*, pp. 5-6.  
 416. B. Rowland, *op. cit.*  
 417. A. Ghosh, *op. cit.*, p. 91.  
 418. V. S. Agrawala, *op. cit.*, p. 11.  
 419. *Ibid.*, p. 17.  
 420. *Ibid.*, pp. 18-19.  
 421. A. Ghosh, *op. cit.*, p. 92.  
 422. A. Cunningham, *op. cit.*, p. 4.  
 423. G. R. Sharma, *IAR* 1955-56, p. 20.  
 424. V. K. Misra, *IAR* 1976-77, p. 13.  
 425. L. A. Waddell, *op. cit.*, pp. 51-60.  
 426. *Ibid.*, pp. 42-50.  
 427. *Ibid.*, pp. 51-60.  
 428. K. M. Srivastava, *IAR* 1970-71, p. 37.  
 429. S. S. Talwar, *IAR* 1971-72, pp. 39 and 41.  
 430. Y. D. Sharma, *A.I.* no. 9, pp. 131-135.

431. P. K. Acharya, *op. cit.*, p. 68.
432. A. Ghosh, *op. cit.*, p. 57.
433. B. Rowland, *op. cit.*, p. 80.
434. V. S. Agrawala, *op. cit.*, pp. 4-5.
435. *Ibid.*, p. 19.
436. *Ibid.*, p. 27.
437. C. Siva Rama Murti, *op. cit.*, p. 26.
438. F. C. Maisey, *op. cit.*, pp. 5-6.
439. B. M. Barua, *op. cit.*
440. L. A. Waddell, *op. cit.*, pp. 29-35.
441. *Ibid.*, pp. 41-42.
442. *Ibid.*, pp. 35-36.
443. *Ibid.*
444. *Ibid.*, pp. 36-37.
445. J-356, State Museum, Lucknow.
446. A. Ghosh, *op. cit.*, p. 58.
447. *Ibid.*
448. *Ibid.*
449. A. Grunwedel, *op. cit.*, pp. 1-26.
450. P. K. Acharya, *op. cit.*, pp. 68-69.
451. *Ibid.*
452. Rustam J. Mehta, *op. cit.*, p. 3.
453. A. Grunwedel, *op. cit.*, pp. 1-26.
454. M. Taddei, *op. cit.*, p. 50.
455. *Ibid.*
456. A. Ghosh, *op. cit.*, p. 94.
457. L. A. Waddell, *op. cit.*, pp. 29-35.
458. K. P. Jayaswal, *IAR* 1953-54, pp. 9-10.
459. L. A. Waddell, *op. cit.*, pp. 51-60.
460. *Ibid.*
461. K. M. Srivastava, *IAR* 1970-71, p. 37.
462. K. M. Srivastava, *IAR* 1973-74, p. 27.
463. K. M. Srivastava, *IAR* 1974-75, pp. 39-40.
464. D. R. Patil, *IAR* 1953-54, p. 9.
465. *Ibid.*, 1954-55, p. 16.
466. A. C. Banerjee, *IAR* 1957-58, p. 11.
467. Cf. G. R. Sharma, *IAR* 1953-54, p. 9; 1954-55, p. 16; 1955-56, p. 20; 1956-57, pp. 28-29.
468. Y. D. Sharma, *A.I.* no. 9, p. 131-135.
469. *A.I.* no. 9, p. 153.
470. V. S. Agrawala, *op. cit.*, p. 20.
471. G. B. Sharma, 'A Summary of Archaeological Excavations in Punjab'; *Archaeology & Sculpture Exhibition*, p. 3.
472. A. Ghosh, *op. cit.*, pp. 110-111.
473. M. Taddei, *op. cit.*, p. 44.
474. A. K. Coomaraswamy, *op. cit.*, p. 18.
475. M. Taddei, *op. cit.*, p. 44.
476. A. Ghosh, *op. cit.*, pp. 110-111.
477. B. Rowland, *op. cit.*, p. 65.
478. Cf. Mono Mohan Ganguli, *JBORS* Vol. XII, pt. IV (Dec. 1926), pp. 466-467.
479. C. Siva Rammurty, *5000 Years of the Art of India*, p. 61.
480. *Ibid.*
481. B. M. Barua, *op. cit.*, p. 64.
482. *Ibid.*, p. 65.
483. M. D. Khare, *IAR* 1964-65, pp. 19-20.
484. Cf. Y. D. Sharma, *A.I.* no. 9, p. 153.
485. *Ibid.*, pp. 147-148.
486. R. C. Gaur, *op. cit.*, pp. 256-257.
487. L. A. Waddell, *op. cit.*, pp. 29-35.
488. *Ibid.*, pp. 51-60.

## RELIGION

The religious traditions of various sects are quite odd in Ancient India. During the post-Vedic period three major sects — Brahmanism, Buddhism and Jainism simultaneously flourished with their characteristic features. However, we do not get any iconic or archaeological evidence or evidences for their ritualistic procedure. Though Greek accounts refer to iconic worships in India, we do not find any positive evidence of it.

It appears towards the close of Mauryan period or with the revival of Brahmanism under the Śunga period, image worship became popular. Perhaps symbolic worship related with Buddhism had a precedence over Brahmanic worship.

From Śunga period onward we get ample evidence of iconic worship, among the three major sects.

Attempts have been made here to give briefly an account of archaeological relics related with these sects and their theoretical or philosophical aspects have been deliberately avoided for they have been discussed by various scholars elsewhere.

### A. Brahmanism

It appears that temple architecture began simulataneously in Buddhism and Brahmanism, perhaps after the death of Buddha. However, their architectural growth took a long time and evolution was at a slow speed.

The temple remains<sup>1</sup> have been found at Besnagar,<sup>2</sup> belonging to 3rd cent. B.C. and from Bairat<sup>3</sup> also belonging to the same period while from Atranjikhera<sup>4</sup> (Plate : XCIV) belonging to Śunga period. At Rajghat<sup>5</sup> remains of a large brick built temple hall supported by twelve pillars was exposed. These temples belonged to various local sects of Brahmanism. A terracotta archaic figurine has been reported from Oriup<sup>6</sup> by B. P. Sinha.

#### 1. VASUDEVA

Vasudeva Kṛṣṇa, as the son of Vasudeva of the famous Yadu or Yādava clan became the leader of a religious movement known as Bhāgvat cult during 2nd cent. B.C.<sup>7</sup>

A Besnagar inscription of the last quarter of the second century B.C. refers to a *garuḍadhvaja* raised at Vidisā in honour of Vasudeva, the deva-deva (the greatest God) by his Greek devotee Heliodoros, an inhabitant of Takṣhaśīla in Gāndhār, who calls himself a Bhāgwat; i.e. a worshipper of Bhagwat-Vasudeva-Viṣṇu.<sup>8</sup>

From Malhar in Bilaspur district, a grey sand stone statue of Viṣṇu<sup>9</sup> (Plate : XCV-A) has been found. It is inscribed and belongs to 200 B.C. Its eyes are closed and hands are folded. He is holding a long object, probably some weapon in his right arm. He is wearing either an upper and a lower garment or only one garment covering his body. Lower portion of the dress is frilly.

One Besnagar inscription speaks of the erection of Garuḍa column of an excellent temple of the Bhāgwat.<sup>10</sup>

These examples support the literary evidence of Vasudeva's association with Garuḍa.<sup>11</sup> It is interesting to note that on a relief from the Eastern Gateway at Sāncī, beside a five headed snake, evidently the king of the Nāgas, stands a large bird with ear ornaments and big bushy tuft. This is assuredly the Garuḍa with the nāga, whose mortal enemy he is.<sup>12</sup> A four faced sculpture from Bhūta<sup>13</sup> belongs to Śunga period. It depicts lion on one side and Varah on the other. It appears to be Virāta-Viṣṇu. It may be associated with Viṣṇu or Yakṣha cult.

## 2. BALRĀMA

One of the earliest image of Balrāma is housed in State Museum, Lucknow.<sup>14</sup> It belongs to Śunga period. In this monolithic image standing Balrām holds a mace in his right hand and a plough in his left hand. There is a serpent hood over his head and the coils of serpent are visible on the back side. The deity wears a bicornate turban, *dhott* knotted in front and ornaments like armlets, necklace and pendant. An interesting representation of this deity has recently been noticed on a punch-marked coin (Plate: XCV-B) in Mathurā Museum. In this Balrām is shown holding a plough.

## 3. BRAHMA

Indra and Brahmā are represented as faithful attendants of Buddha in later Buddhist sculpture.<sup>15</sup> Iconic representation of Brahmā is rare.

## 4. SŪRYA

Though we find sun symbols on Ancient punch marked coins in the earliest NBPW phase around c. 5th cent. B.C. and even earlier on terracotta discs of the painted grey ware period going back at least to c. 1000 B.C. Human representation of Sūrya appears in c. 3rd cent. B.C. A Bharhut medallion representing human bust of Sun, with the stamens of a lotus representing his rays, suggest that the Sun was a popular deity in c. 3rd cent. B.C.<sup>16</sup> A disc type terracotta plaque from Rājghat<sup>17</sup> (Plate: XCVI-A) depicts head of Sun God within a circle emitting rays around it. It is made out of a mould and is in dull red colour. It is a unique specimen of its kind. A typical representation of Surya belonging to the Śunga period is the most interesting example. It is carved on one of the railing pillars at Bodh Gaya<sup>18</sup> (Plate: XCVI-B). Here the God is shown riding on a four horsed chariot accompanied by the Goddesses *Uṣa* and *Pratyūṣa* shooting arrows at the demons of darkness. Also at Patnā,<sup>19</sup> a terracotta image of Sūrya was found in a four horsed chariot and accompanied by an attendant who is dispelling darkness with bows and arrows. From Patnā,<sup>20</sup> a sandstone relief of Sun God in Quasi-Greek style also came.

## 5. KĀMADEVA

Some terracotta representation of Kāmadeva have been found from different sites. A specimen from Mathurā, now in Allahabad Muscum is of standing Kamadeva.<sup>21</sup> His hair is arranged in a coil on the left side of the head. He wears coiled ear-rings, a triple stringed torque and a waist band holding *dhott* in place. He holds a long bow in his left hand and a bunch of arrows in the right upraised hand. In another specimen of Kamadeva from Mathurā,<sup>22</sup> (Plate: XCVII) the God holds a flower decked bow in his left hand and a bunch of arrows in right lowered hand. In another plaque from Mathurā (Plate: XCVIII-A) he is shown with wings. Other pieces of terracotta with Kāmadeva on it have been found from Mūsānagar,

Kanpur, Kauśāmbī etc. A stone capital of Śūnga period from Besnagar<sup>23</sup> representing *Makara* is associated with a temple of Kāmādeva.

#### 6. KUBERA AND KALPADRUMA

Marshall has discovered a male figurine at Taxila,<sup>24</sup> which he has tentatively identified as Kubera. According to Marshall it is very similar to the figures in Māra's army on the northern gateway at Sanci. Another terracotta figurine of Kubera has been found at Chandraketugadh.<sup>25</sup> His hair is tied on the right side. He has a protruding tummy. He is wearing a necklace. Dholl is shown by lines. Another statue of Kubera has been found from Besnagar.<sup>26</sup> (Plate: XCVIII-B) It belongs to c. 1st cent. B.C. Its right hand is broken but holds a bag in his left hand. He is wearing ornaments in his arms, neck and ears. Hair is arranged in the form of a bun over the head, a little towards his left side.

From Besnagar, a *Kalpadruma*<sup>27</sup> capital belonging to Śūnga sculpture has also been found. It is in Indian Museum now. The *Kalpadruma* capital is the crowning piece of a column or dhvaja of a temple of Kubera or Śri. It has a conch shell and lotus oozing coins and bags and pots of treasure arranged beneath the foliage to suggest '*Nidhis*'.

From Chausa<sup>28</sup> (Plate: XCIX-A), a *Kalpavrikṣa* in bronze has been found. It belongs to c. 1st cent. B.C. A lady is sitting on the top of the tree. It is in Patna Museum.

#### 7. ŚIVA

The earliest historical record to mention the worship of Śiva is that of Megasthenes,<sup>29</sup> the Greek envoy at Pataliputra about c. 300 B.C. Patanjali<sup>30</sup> in c. 2nd cent. B.C. also refers in his *Mahābhāṣya* to the Śiva Bhagwats and also to images of Śiva and Skanda, which were sold by Mauryas to raise money. This shows the popularity of the cult. Several indigenous coins<sup>31</sup> of different varieties, dating back to a few centuries before the Christian era, contain anthropomorphic as well as phallic figures of Śiva.

Above accounts have been supported by the find of a mutilated stone cauchant nandi of Mauryan period from Pataliputra,<sup>32</sup> and a stone votive linga from Besnagar.<sup>33</sup> A terracotta male head from Vaiśālī<sup>34</sup> has a jata like matted lock over the head and a large mark in the middle of the forehead. On considering these two points, this head may possibly be taken as Śiva. A similar specimen has also been reported from Śahabad<sup>35</sup> (Plate: XCIX-B). Two terracotta heads from Kauśāmbī<sup>36</sup> also show similar features. One has typical jata like hair style and second with a probable third eye on its forehead. A similar specimen with heavy Kundalas is found at Ganwāriā.<sup>37</sup> A Śūnga terracotta plaque from Kauśāmbī<sup>38</sup> (Plate: C-A) depicts Śiva riding on Nandi. Nandi is well decorated with flowers and bells. A *Śiva-linga*, found at Bhitā<sup>39</sup> (Plate: C-B), now in State Museum, Lucknow is of the Pañch-mukh type. The upper part consisting of a head and bust, while the remaining four heads are represented in low relief and below these heads the suture of the lingam is clearly indicated. It has been assigned to c. 1st cent. B.C. by Coomaraswamy. From Bhuteswara, Mathurā<sup>40</sup> (Plate: C1-A), a stone lintel has been found. It shows worship of *Śiva-lingam* by celestial beings carrying flowers and garlands. The celestial beings are in the form of half male and half winged lions. The *Śiva-lingam* is closed between railings under a tree flanked by one Kinnara on the right side and three on the left side.

Terracotta bulls have been found in abundance from all sites which is the vehicle of Lord Śiva. It may go in support of Śaivism. The youthful figure of a seated Yogini, discovered by Jayaswal from the site of Bhiknapaharī<sup>41</sup> in Patna shows the ornaments of beads, the

Ūrdhva-linga and what appears to be a snake head over the head. The above characteristics may associate the figure with the conception of the Lord Śiva.<sup>42</sup>

### 8. KĀRTIKEYA

No Kārtikeya image of this period is yet known. The winged male with peacock on terracotta plaques may represent Skanda or Kārtikeya of the Prechristian era.<sup>43</sup> No. 4825 from Kauśāmbī now in Allahabad Museum is a male bust. He is holding the neck of a peacock with his both hands. The portion of the plaque containing wings is broken. A male riding on the back of a peacock is a rare specimen. Peacock has been depicted at Bharhut, Sāncī, etc. Peacock is the vehicle of Skand Kārtikeya. Patañjali in 2nd cent. B.C. also makes specific mention of *Skanda*.

### 9. INDRA

At Bharhut there is representation of the veneration of the Buddha's head-dress in the paradise of Indra.<sup>44</sup> Similarly on the railings of Bodhgaya,<sup>45</sup> assignable to 1st cent. B.C., Indra has been depicted. He is carrying a handful of grass. He is wearing a dhoti only upto knees and tied in the waist with the help of a band of cloth. Among ornaments are two neck garlands and bangles in the hand. A terracotta plaque no. 79.22/6 in Lucknow Museum from Kauśāmbī<sup>45</sup> shows an elephant with seven trunks (probably Erāvāt in Kadali Vana). A man sitting over it with three figures behind. Out of them one holding a *chawar*. A man in front shown walking probably holding the rope.

### 10. ŚRĪDEVI OR LAKṢHMI

The worship of this popular goddess must have prevailed, even in Buddhist times throughout the India. It can be seen both in Bharhut and Sāncī. One at Bharhut has been inscribed as Sirima Devatā (Plate : C1-B). In Bharhut<sup>46</sup> there are four representations of this goddess—one seated and three standing. She is represented as a woman in the costumes and ornaments of a hindu, seated or standing on a lotus flower. Where she is represented with four hands, two of them are empty and the other two are raised, each holding a lotus, while two white elephants, holding waterpots in their trunks watering the flowers in her hands.

As other types of figures, viz. the goddess seated or standing on a lotus or standing with lotus in hand, in some cases surrounded by flowering stems are also to be found inscribed on coins.<sup>47</sup>

The terracotta figurines of *Lakṣmi* have been found from many sites including Vaiśālī,<sup>48</sup> Śrāvastī,<sup>49</sup> Kauśāmbī,<sup>50</sup> Purānā Qila,<sup>51</sup> Campā,<sup>52</sup> Atranjikhra,<sup>53</sup> and Candraketugadh.<sup>54</sup>

The figurine from Vaiśālī is a plaque showing a figure standing in the midst of lotuses with two long stems held in the hands. It is peculiar in having a pair of wings on the shoulders.<sup>55</sup> From Śrāvastī,<sup>56</sup> it is a standing female holding a flower in her right hand and left hand resting on the belly. Facial features like lozenge shaped eyes, nose and mouth indicated after moulding the plaque. She wears an elaborate head-dress, a turban with central floral pattern and steamers, falling from the floral knots. Plaque no. 541 from Kauśāmbī<sup>57</sup> now in Allahabad Museum has a woman with lotus. Here the left arm holds a lotus bud. She wears a close fitting saree leaving part below knees bare. A semi-circular ornamental halo containing animal figures is seen above her head. A ribbon impressed with lotus rosettes emerging from the lower part of the halo hangs on either side of her head. (KSB XIII D/254-58) III 16<sup>58</sup> is a female figurine with her pupils, nose and chin shown clearly. On either side of a central lotus medallion five cord like ribs represent a crown. The upraised right hand is holding a full

blown lotus. A 6.5 cm high moulded terracotta plaque from Atranjikhera<sup>59</sup> shows Gaja Lakshmi with round earrings is being sprinkled from top over the head by two elephants shown on either side having their trunks twisted above. Similar specimens have been reported from Kanauj (Plate: CII-A, B) and many other places. A dull red terracotta plaque from Candraketugadh<sup>60</sup> now in National Museum, shows Śrīdevī standing on a round object amidst flowers with five auspicious symbols. She has an elaborate head dress, two braids one on each side. Five leaves coming out from each side of head. In another terracotta plaque from Kauśāmbī (?)<sup>61</sup> (Plate: CIII-A) Lakshmi has been shown with two attendants, one holding chavar and other probably holding chatra over the head of goddess. All the three figures are shown standing on lotus flowers.

Along with Lakshmi in later period we also find the depiction of Goddess Yamuna particularly in Gupta period. However, one specimen of it has been noticed on northern face of North East pillar at Sanct<sup>62</sup> (Plate: CIII-B). Here she is shown riding on a tortoise, which is the vehicle of Goddess Yamuna.

### 11. SAKTI

From Kauśāmbī some terracotta figurines have been found. Their head gear is distinguished by two prominent side rolls of a turban flanking a central bun and a number of sacred symbols, either on both sides or only on one side, probably to mark the divine character of the figure<sup>63</sup> (Plate: CIV-A). One of them is now in Indian Institute Oxford.<sup>64</sup> In a fragmentary piece in Bharat Kala Bhawan<sup>65</sup> (Plate: CIV-B) we see a female figurine with smiling face and five sacred symbols stuck on each side of her head dress. Among them the goad (Ankuṣa) and battle-axe (paraśu) are distinct.

From Campa<sup>66</sup> and Ahichchhatra<sup>67</sup> similar types of plaques showing a female figure with weapons or *ayudha* among sacred symbols, have been found. B. P. Sinha has mentioned the find from Campa as Śakti. All these figurines belong to Śuṅga period.

### 12. VASUDHĀRĀ

A terracotta plaque depicting a female figure holding a pair of fish in her right hand is reported from Mathurā<sup>68</sup> (Plate: CV-A), and Noh.<sup>69</sup> These have been identified as goddess Vasudhārā.

### 13. MOTHER GODDESS

Majority of the female figurines indicate that there was a widespread fertility cult. These images were known as mother goddesses.

These mother goddess figurines were introduced sometimes in the fourth-fifth cent. B.C. Interesting figurines of such types have been displayed in the Mathurā museum gallery. Initially they had stumpy legs and beak shaped mouth. In the next stage of development slightly better figurines came. They had decorations made by pin hole and applique. After this the head part was started being made with the help of mould. This moulded head can be categorised into two categories—one, in which the moulded head was decorated with applique ornaments and second, in which whole of the head portion was moulded. After this plaques came in to being. These were completely moulded, but only on one side, back part was left plain. These mother goddesses had the following characteristics in common:<sup>70</sup>

- (1) absolute nudity,
- (2) determinately emphasised sex organ

- (3) presence of the girdle round the body, a little above the sex organ, and  
 (4) Developed breasts. In some cases the goddess is depicted with a child (mother-child type).

Thus in these figurines the feminine characteristics are very determinately emphasised. Mother goddess figurines of various types, mostly fragmentary have been found from a large number of sites during the course of excavations. Among these sites are Bateśwara,<sup>71</sup> Balirājgadh,<sup>72</sup> Mathura,<sup>73</sup> Śrāvastu,<sup>74</sup> Vaiśali,<sup>75</sup> Ahichchhatra,<sup>76</sup> Rājghat,<sup>77</sup> Prahādupur,<sup>78</sup> Kauśāmbi,<sup>79</sup> Atranjikherā,<sup>80</sup> etc.

Ring-stones of various sizes have been found from different sites like Purāna Qila,<sup>81</sup> Ruper,<sup>82</sup> Taxila,<sup>83</sup> Rājghat,<sup>84</sup> Kauśāmbi,<sup>85</sup> etc. These have been generally associated with fertility cult.<sup>86</sup> But it is doubtful whether these rings were cult objects. There is every possibility that these were used for various purposes. The specimen from Ruper bears fine Mauryan Polish and the ringstone is minutely carved with figures and motifs. The specimen from Taxila depicts mother goddess with elaborate headdress and ear ornament. Another specimen displayed in State Museum, Lucknow<sup>87</sup> depicts reptiles in outer most circle and mother goddesses and trees alternating with each other in the inner circle. A stone disc from Kauśāmbi<sup>88</sup> shows mother goddess in between foliage and flowers. Mor. no. 28 and 25 from Allahabad Museum are stone discs belonging to 3rd B.C. They show mother goddess and palm trees alternating with each other. Mor. no. 23 from Allahabad museum shows inner most circle having mother goddess and outer circles decorated with geometrical designs.

At Lauriya Nandangadh,<sup>89</sup> Majumdar found a specimen in which a child suckles the breasts of the goddess. Almost similar specimen was also found from Rājghat,<sup>90</sup> now in Lucknow Museum. The goddess wears cakra Kundala type of earrings. Like wise Coomaraswamy<sup>91</sup> has illustrated a figurine in which a child is shown by the side of the female figure. One specimen was also found at Atranjikherā.<sup>92</sup> It is a 12 cms high moulded plaque of a mother with child. The woman wears traditional ornaments and drapery.

Some interesting figurines from Masaon,<sup>93</sup> Malhar,<sup>94</sup> Rājghat<sup>95</sup> (Plate: CV-B) and Ganwāria<sup>96</sup> are depicted with a child in their lap. Among these, the one from Mathura<sup>97</sup> now in National Museum, New Delhi, has been depicted with elaborate headdress and loboid earrings. It wears skirt type of dress with punch marks.

#### 14. NĀGAS AND SERPENT GODDESSES

The serpent cult in India is of great antiquity. Snake was originally worshipped in animal form. Examples of nāga worship in animal form have been found from Sānci<sup>98</sup> and Rājgir<sup>99</sup> (Plate: CVI-A, B). The one from Sānci is five headed and from Rājgir seven headed. Gradually it was associated with human forms. Both animal and human forms have been carved at Bharhut and Sānci. Bihar was a great centre of serpent worship. There was a shrine dedicated to *Maninaga* at Rājgir.<sup>100</sup> The serpent in animal form on terracottas have been found from various sites during excavations. Among them are Mathura,<sup>101</sup> Rājgir,<sup>102</sup> Sonapur<sup>103</sup> and Śrāvastu.<sup>104</sup> While serpent goddess in the form of peculiar terracotta flat figurine with snake like head, broad hips and thin waist—thus combining a serpent and a female figure is characteristic of sites like Kauśāmbi,<sup>105</sup> Sonapur,<sup>106</sup> Vaiśali,<sup>107</sup> Cirand,<sup>108</sup> Campā,<sup>109</sup> Pataliputra,<sup>110</sup> Śrāvastu<sup>111</sup> and Atranjikherā.<sup>112</sup> The body is decorated with punched circlets and lines. The eyes and breasts are shown by applied circlets. A small and very curious figure with two projections or feet to enable it to stand upright, head is of a snake but body as appears from markings is of a woman. This specimen is from Patnā.<sup>113</sup> Similar large fragments have been



reported from Basarh and Buxar. A solitary specimen of a naga figure was excavated from Śrāvastu.<sup>114</sup>

This find also shows serpent and female figure combined in one. A wide distribution on other sites shows popularity of Naga worship. At Atranjikhhera<sup>115</sup> it was found in the form of a terracotta amulet. From Bulandībagh<sup>116</sup> a terracotta figurine has been described as "a serpent goddess with elaborate coils decorated with honey suckle patterns. Another terracotta face appears to be a naga head.<sup>117</sup> It has an elaborate head-dress with coils in front. It is wearing big earrings. Its place of find is unknown. Nagas are invariably associated with Buddhism and Jainism. Various traditions associated nagas with Buddha's birth, stūpas and as canopies of the two Jain Tirthankaras—Parśavanāth and Suparśvanāth. In two panels of Sanci<sup>118</sup> gateways Naga king Muchilinda is shown with his family and Buddha's seat under a tree. One panel is on South Gateway, east pillar, front side, top panel and the other panel is on west gateway, north pillar, South face, second panel. In another panel of Sanci's<sup>119</sup> South gateway, front side middle architrave, Stūpa of Rāmagrāma is shown guarded and worshipped by the nagas with their families.

On a railing pillar from Bharhut<sup>120</sup> (Plate: CVII-A), Nāgarāja has been depicted in human form with a serpent hood. It belongs to c. 2nd cent. B.C. Similarly in Mathura Museum<sup>121</sup> (Plate: CVII-B), a naga statue in human form with a serpent hood has been displayed. It belongs to Śunga period.

## B. Mythical Beings

Besides belief in Gods and Goddesses, a section of society also believed in semidivine spirits, generally known as Yakshas, Gandharvas and Kinnaras.

In some cases there was a fear from evil spirits or demons. However, among these the first two were quite popular and were gradually assimilated in Buddhism and Jainism.

Gandharvas as generally supposed atmospheric spirits and often have been shown in flying posture associated with the legends of Buddhism.

### 1. YAKSHAS

Among all these spirits Yakshas (for their artistic description, see Chapter on Art) and Yakshinis like mother goddesses were quite popular. They were generally treated as village guardians in our period of study and their colossal images were installed at the village boundaries. They hold important place in Buddhism as well as in Brahmanical myths. Since they owed their existence to tribal primitive imagination, they had a very heavy earthly character of form.<sup>122</sup> Many of the early semidivine statues of Yakshas were sometimes regarded as the attendants of the greater gods and sometimes as object of reverence.<sup>123</sup>

Yaksha images in terracotta have been reported from Kauśāmbi,<sup>124</sup> Purāna Qila,<sup>125</sup> Ahichchhatra<sup>126</sup> and in stone from a large number of sites including Mūsānagar,<sup>127</sup> Kauśāmbi,<sup>128</sup> Padrauna<sup>129</sup> Parkham,<sup>130</sup> Rajghat<sup>131</sup> and many other places.

The Mūsānagar figurine is noteworthy because of its bifacial depiction. It wears typical dhoti held in place by knotted band, and its headdress in typical bicornate type. On each side are depicted one yaksha as attendant. It belongs to 1st cent. B.C. Another specimen from Kauśāmbi,<sup>132</sup> now in Lucknow Museum is depicted on a rail pillar of 2nd cent. B.C. However, the third specimen from the same museum is that of a Yaksha from Padrauna.<sup>133</sup> Only feet portion of a colossal image was found. It is interesting because it wears Sandals in its feet. It may belong to the close of 1st cent. B.C.

The terracotta Yakṣini figurines have close resemblance with the well known Yakṣini figurines in stone of this age. Some Yakṣini figurines have been found with plant motif from Bodhgayā, Bharhut (Plate: CVIII-A) and Sāncī. One example from Bhīṭa,<sup>134</sup> represents a female figurine in dancing posture under a palm tree. Its face is worn out but hair is well marked. Its upper body is nude but lower body is clothed. Cloth is indicated by incised lines. She is holding something in her right arm and the left is stretched towards the right. This figurine resembles to a great extent with the Yakṣini image called Chulakoka devatā depicted on the railing round the Bharhut stūpa. The plant motif in these cases suggests its divine character.

A Yakṣi in Lucknow Museum<sup>135</sup> of 2nd B.C. (provincence not known) is an artistic piece. It has a bun on right side and wears a girdle of two strings, anklets, rings, bangles, necklace with pendant and a garland. At Ahichchhatra<sup>136</sup> also a standing Yakṣi was yielded wearing dhott held by beaded girdle of three strings. She is wearing ornaments and a prominent head gear.

Other figurines are also more or less similar to the known Yakṣini images of the Maurya period found at Didārganj and Besnagar. These evidences are indicative of the fact that there was a cult of Yakṣini prevalent in the Maurya period.<sup>137</sup> This has again been supported by later sculptures depicted on the railings and gateways at Sāncī, Bharhut, Amarāvati and railings of Bodhgayā.

## 2. GANDHARVAS

Hybrid creatures with human busts, head-dresses and ornaments, and lower part of the body that of a bird on which the hips of human form are set, have been very frequently represented both in stone and terracotta.<sup>138</sup> These winged creatures can be taken for *gandharvas*, the musicians of Indra. All these belong to 2nd-1st cent. B.C. In stone they are seen at Bharhut, Sāncī and Bodhgayā. In terracotta about a dozen specimens have come to light from various sites like Kauśāmbī,<sup>139</sup> Lauriya Nandangadh,<sup>140</sup> Candraketugadh, Balirājgadh, Mūsānagar and Vaiśālī.<sup>141</sup> The winged figure excavated by Spooner from Vaiśālī is a terracotta plaque. On each side of her shoulders there is a decorated wing. Due to which it can be categorised as *Gandharva*. A male specimen from Kauśāmbī<sup>142</sup> is wearing female type conspicuous ornaments. A wing is preserved at the back of the right shoulder.

## 3. KINNARAS

So far as the third group is concerned we get a nice although mutilated round plaque from Mathurā (Plate: CVIII-B) in which two Kinnaras place each others arm on each others shoulder.

## C. Buddhism

Aśoka's monolithic pillars and rock edicts inculcating the practice of dhamma or law of piety are well known. Besides these, Aśoka is also credited with the creation of 80,000 stūpas and countless monasteries.<sup>143</sup>

As the stūpas became point of attraction, the monks took the opportunity to construct places of worship in adjacent structures. These became the chaitya halls.<sup>144</sup> These chaityas were erected on the sites of the four great events of the Buddha's life and in other places. Each of the great events and sites were represented by a symbol and these symbols collectively tell the whole story of Buddha's life. A few of them have been depicted at Bharhut and Sāncī.<sup>145</sup>

Originally viharas were simple monk's cell, possibly a natural opening in a cliff. Later they took the form of a monastery with entirely constructed cells usually around a courtyard. But then another development took place. Viharas were cut of natural rock formations—large caves with many cells facing an inside hall.<sup>146</sup>

After Kalinga war Aśoka exerted himself with unflagging zeal for the propagation of Buddhism. After this he had carved no. XIII edict on a rock saying that all men killed and deported in war so upset him that he was filled with remorse and turned to Buddhism.<sup>147</sup> He set up missions to preach the doctrine both in and outside India and also under went tours himself for this purpose. He himself practised what he preached in order that others might follow.<sup>148</sup>

Being inspired by the principles of Buddhism, Aśoka as a monarch worked for the moral uplift of his people by preaching the fundamental principles of Dhamma in his edicts. His view was that religion, like charity should begin at home. Respect must be shown by pupils towards their teachers. Aśoka defines the practice of morality and right conduct as the true ceremonial (R.E. XII).<sup>149</sup> Aśoka spoke to Dhamma Mahamatras and other high state officers that he did not attach great importance to making gifts and showing honours only but to promoting the growth of the essentials of dhamma in men of all sects. The promotion of one's own sect and the glorification of the dhamma should be the chief aim of all men, official or non-official. Aśoka visited in the 21st year of his reign the village of Lumbini, the place of nativity of Lord Buddha to offer his personal worship to it and made it tax-free.

In the fifteenth year of his reign Aśoka enlarged the stupa of the former Buddha Konakamana (Kanakmuni) to its double size and visited the spot in 21st year of his reign to pay his personal worship. In this way we find that Aśoka believed in the worship of previous Buddhas.

Though a Buddhist Aśoka was anxious for concord of communities and harmony of creeds. His R.E. XII is an appeal for the toleration of all religious sects and for developing a spirit of reverence for them.<sup>150</sup>

Though Aśoka may be regarded as the head of the Buddhist church, he did not make Buddhism the state religion because he was tolerant to all sects and creeds. He thought there was no country where people do not profess religious faith in one sect or another (R.E. XIII).<sup>151</sup>

But Aśoka's conversion to Buddhism was more than a religious conversion. The message inscribed on rocks and pillars all over the empire do not contain specifically confessional connotations, but speak of peace, respect for individuals, justice and non-violence.<sup>152</sup> War is rejected as a means of conquest. True victory is not won by weapons but by Dhamma.

Just as Buddha revealed the law to men after meditating on the pain of humans, so Aśoka upset by the sufferings of the victims of the Kalinga expedition, proclaimed to his subjects his personal conception of Dhamma.<sup>153</sup>

Aśoka stood for the religion of nonviolence to men and animals which he preached in many of his edicts. He insisted on the recognition of the sanctity of all lives. He set the example himself. The unrestricted slaughter of animals for the royal table was first limited to one deer and two peacocks and was later totally abolished. The principle of non-violence was not merely limited to food and private life. It was extended to the wider sphere of politics and international relations.<sup>154</sup> He abolished all public pastimes and popular sports of the country which were tainted with blood and which included the slaughter of animals and eating of meat, or the cruel fights between animals. He also abolished the slaughter and sacrifices

of animals in the name of religion. By his own inculcation of dhamma, he succeeded to arrest the increase during the past hundred years of sacrificial slaughter of living creatures.<sup>155</sup> He abolished the time honoured royal sport of hunting in which his grandfather used to indulge with so much pomp and magnificence (R.E. VIII).<sup>156</sup>

Pilgrimages to holy places like Bodh Gaya or Lumbini took the place of pleasure trips. Mahāmātrās and viceroys followed the royal path and started missions of social service and conveyed the messages of morality to the rural population.<sup>157</sup> Military expeditions were stopped altogether. Aśoka sent many peace missions in India and abroad (R.E. XIII).<sup>158</sup>

Punishments for different crimes were there but prisoners were released on a day in the year, probably the king's birthday (P.E.V.). A grace of three days was allowed to criminals who were condemned to death (P.E.IV).<sup>159</sup>

Aśoka was both a monarch and a monk. According to minor rock edict (M.R.E., I) which was probably issued four or five years after Kalinga war, the king was a lay disciple for two and a half years but after this he joined Saṅgha and began to exert strenuously for the spread of religious ideas.<sup>160</sup> This edict says that it was issued when the king was on his 256th religious tour.<sup>161</sup> Whenever he found it convenient, he sent missionaries to propagate the Buddhism directly. He sent his own son and daughter to Ceylon for this purpose.

According to the Mahāvāṅsa, the third Buddhist council was held in the time of Aśoka at Pataliputra. It was presided over by *Moggaliputta Tissa*. This council deputed missionaries to various countries. They carried Aśoka's message of non-violence alongwith measures for the relief of suffering of all living creatures (R.E. XIII).<sup>162</sup>

It is a historical fact that before and probably during the first part of Aśoka's reign there was evident intolerance and division among different Buddhist sects regarding Buddha's sayings and disciplinary principles. Aśoka declared in his Saṅci edict that it was his desire that the Saṅgha may remain united and may endure long.<sup>163</sup>

We have no images of Buddha from this period but we have symbols like dharma cakras, Bodhi trees, Buddha's foot prints and Buddha's seat. All these symbols have been repeatedly depicted at Saṅci, Bharhut, Bodhgaya, and Mathura (Plate: CIX-A; CX-B).

From Chausā<sup>164</sup> a Dharmacakra in bronze (Plate: CIX-B) has been found. It belongs to c. 1st cent. B.C. It is in Patnā Museum.

A stone containing Buddha's foot-prints (Plate: CX-A) was found during excavations at Pataliputra.<sup>165</sup> It is a 2.5 feet square chipped block of quartzite, bearing two slight depressions side by side, each about 20 inches long and 6 inches broad. Another stone slab bearing Buddha's foot print is from U.P.<sup>166</sup> The stone is greenish grey schist. It is in Prince of Wales Museum, Bombay. It belongs to c. 2nd Ist. cent. B.C. The tips of fingers bear *Swastika* symbols, and the foot portion bears Cakra, nandipada and Lotus symbols on it.

At Mahābodhi temple, Bodhgaya<sup>167</sup> there is a seat known as Vajrāsana (Plate: CXI-A). It represents Buddha's seat. It belongs to c. 3rd cent. B.C.

A beautiful triratna slab and a small fragment, probably part of the expected inscription underneath the wheel of law on the triratna slab were found at Pataliputra.<sup>168</sup> It measures 3.5 inch x 3 inch x 2 inch and shows only three full letters and traces of the bottoms of other akṣharas. It belongs to Śuṅga period.

## D. Jainism

The custom of icon worship among the Jains perhaps goes back to the Maurya-Śuṅga period.

Lohanipur (Patna)<sup>169</sup> yielded two nude stone torsos, the lower portion of a head, a mutilated arm or leg and the plinth of a brick structure. Alongwith these a worn out silver punch-marked coin was found which indicates their date.

Further the fragmentary head and one of the two torsos,<sup>170</sup> both of sandstone, bear the characteristic Mauryan polish, showing that they belonged to Maurya period. The head, apparently belonged to another sculpture. The torso, no doubt, represents a *Tirthankara* (Plate: CXI-B). The second torso is probably not earlier than c. 1st cent. B.C.

At Basarh<sup>171</sup> a nude male figure probably of a Jain *Tirthankara* was found.

As has been referred to above the regular images of *Tirthankaras* became popular from c. 1st cent. B.C. onwards. Even during this period, the popular iconic mode was *ayagapatta*—the worship tablet. It appears that these tablets like votive stūpas were found in every Jain house for worship purpose. There are some references to the existence of casual Jain images even in earlier period as attested by epigraphic records. But such evidences would be very rare.

There is an epigraphic evidence in the form of Hathigumpha<sup>172</sup> inscription to the removal of a Jina image from Kalinga to Pataliputra by the Magadha king Nanda at the time of his invasion of Kalinga and its subsequent recovery by the Chedi king Kharvela who invaded Magadha in the C. 1st cent. B.C. An early Jain temple with an inscription referring to a Jain Saint *Śhūlabhadra* of the early Jain church belonging to the first part of c. 3rd cent. B.C. was found at Pataliputra. During this period the canon of the Śwetāmbara sect was selected by the council of Pataliputra.<sup>173</sup>

The Khandagiri and Udaigiri caves of Orissa, in one of which the inscription is engraved, contain some early Jain reliefs. A continuous frieze of reliefs on the facade of the Rani Nur cave at Udaigiri has been taken as illustrating the incidents, in the life history of the 23rd Jina *Parśvanath*.<sup>174</sup>

In the centuries immediately preceding and following the Christian era, a number of well carved Jain images and *Ayagapattas* have been discovered in Mathura (Plate: CXII-B). The *Ayagapattas* have Jina figures in their centre and eight auspicious symbols on their borders.<sup>175</sup>

Mathura has been a great centre of Jainism. From various parts of the town and the suburbs, a large number of Jain sculptures have been found from c. 2nd cent. B.C. onwards. Some of them require our attention. A railing pillar from Kankali Tilā belonging to c. 2nd cent. B.C. (Plate: CXII-A) depicts the story of Nilanjana and *Riṣabhanāth* in a row of three scenes. It depicts *Riṣabhanāth* in meditation followed by Nilanjana dancing in front of him to please him, but he remains absorbed in meditation.<sup>176</sup>

In addition to this there are three noteworthy *Ayagapattas* in Lucknow Museum.<sup>177</sup> In the first one the *Tirthankara* is shown in the centre with two pillars, one on each side; one with a wheel and the other with a lion. The depiction of *Acanthus* shows foreign influence. One which came from *kankaliṭṭā* Mathura depicts *Parśvanath* being worshipped. This *ayagapatta* is beautifully decorated by *nandipada*.

The third one is from *Ahichchhatra*. In it, a lotus is shown in the centre, *nandipada* and other auspicious symbols around it, in other parts respectively. While the first two may belong to the close of c. 1st cent. B.C., the third one may be a bit earlier in date.

It is interesting to note that some times *Ayagapattas* were also made of terracotta. One such example from *Taxila*<sup>178</sup> is exhibited in National Museum, New Delhi.

In Mathura Museum there is a large number of fragmentary brackets, crossbars, railing

pillars, lintels etc. showing foliage and animals, horse riders, bullocks etc. generally belonging to Śunga period. Since most of them are inscribed, they appear to be parts of Jain structures.

Existence of a Jain shrine as early as the middle of c. 2nd cent. B.C. is proved by an inscription recording the dedication of a *Pasana Torana* by a Śrāvaka named Uttara dasaka.<sup>179</sup>

The earliest representation of a stūpa occurs on a bottom architrave of the gateways of a Stūpa.<sup>180</sup> Another representation of a stūpa occurs on a sculptural fragment of an architrave belonging to c. 1st cent. B.C. Kankali Tilā yielded a large number of lenticular cross bars of railings with medallions containing various motifs.

### E. Minor Religious Sects

*Anguttara Nikāya*—a Buddhist canonical work belonging to fourth-third centuries B.C. has mentioned many religious sects like *Ajivika*, *Munda-Śrāvaka*, *Jatilaka*, *Parivrājaka*, *Māgandika*, *Traidandika*, *Aviruddhaka* and *Devadharmika* etc. Mahānidessa and Chullanidessa—two other Buddhist canonical works belonging to second-first cent. B.C. mention a number of other worshippers of elephant, horse, cow, dog, crow, Vasudeva, Baldeva, Pūrṇabhadra, Maṇibhadra, Agni, Yakṣhas, Asuras and Gandharvas.<sup>181</sup>

#### AJIVIKAS

This sect was mentioned by Patañjali about c. 150 cent. B.C. They enjoyed the patronage of Aśoka and his grandson Daśarath. Both of them dedicated caves to ajivikas.<sup>182</sup> The entire Barabar Cave complex originally belonged to ajivikas although later they were occupied by Buddhists and Hindus.<sup>183</sup>

### F. Animals in Religion

Most of the sites like Ahichchhaura,<sup>184</sup> Autha,<sup>185</sup> Apsad,<sup>186</sup> Ayodhya,<sup>187</sup> Bateśwara,<sup>188</sup> Buxar,<sup>189</sup> Balirājgarh,<sup>190</sup> Chirand,<sup>191</sup> Chandahadih,<sup>192</sup> Champā,<sup>193</sup> Eran,<sup>194</sup> Hulas,<sup>195</sup> Hulaskhera,<sup>196</sup> Jodhpura,<sup>197</sup> Jājmau,<sup>198</sup> Atranjikhērā,<sup>199</sup> Hastinapur,<sup>200</sup> Vaiśālī,<sup>201</sup> Śrāvastu,<sup>202</sup> Kauśāmbī,<sup>203</sup> Bhūta,<sup>204</sup> Katragarh,<sup>205</sup> Kolhna,<sup>206</sup> Mathura,<sup>207</sup> Masaon,<sup>208</sup> Moradhvaj,<sup>209</sup> Noh,<sup>210</sup> Piprahwa and Ganwāriā,<sup>211</sup> Purānā Qilā,<sup>212</sup> Pātaliputra,<sup>213</sup> Rājghāt,<sup>214</sup> Sonapur,<sup>215</sup> Śrāvastu,<sup>216</sup> Sugh,<sup>217</sup> Sarāi-Mohana,<sup>218</sup> Takiapur,<sup>219</sup> Ujjain,<sup>220</sup> Vaiśālī,<sup>221</sup> and Rājgir<sup>222</sup> have yielded a large number of terracotta figurines as well as bone remains from the sites like Atranjikhērā,<sup>223</sup> Hastinapur,<sup>224</sup> Kauśāmbī,<sup>225</sup> Rājghāt<sup>226</sup> and Autha.<sup>227</sup>

Among the terracotta figurines of animals there were Elephant, Horse, Bull, Lion, Ram, Fox, Goat, Tiger, Monkey, Unicorn, Sheep, Snake and Birds. Among the bone remains were found the bones of elephant, cattles, goat, sheep, horse, gharial, river turtle, fowl, fresh water musles.

In addition to these terracotta and stone figurines of mythical animals have also been found, among them were animals with body of a bull and head of elephant (Plate: LXXIV-B) winged lion (Plate: LXXIV-A), human faced horses and so on. From Hastinapur<sup>228</sup> a anthropic figure with human face and animal body in terracotta was found during excavations. Chin was pinched to give the impression of beard. The entire body was decorated with punched circlets, mostly in rows alternating with grooved lines.

Incidentally, bull horse, elephant and lion are associated in one way or the other with the Buddha. It is possible that these animals became more popular due to the impact of Buddhism. However, bull has been a popular and religious animal since long.

The horse besides being an animal of utility had religious sanctity from the time of Vedas.

The monkey perhaps got a religious sanctity from the revival of Brahmanism from the Śunga period.

We are not sure whether lion or tiger was associated during this period with any mother goddess. However, in later days lion was associated with goddess Durga.

## G. Trees in Religion

From the time of Indus Valley civilization trees were worshipped in India. A number of trees have been found depicted on Indus seals and some of them with a deity sitting under some tree. This tree was worshipped since that time till today. During Maurya and Śunga period tree worship was quite prevalent as appears from their depiction on Sānci and Bharhut sculptures. At Bharhut we have a series of panels showing worship of the following Bodhi trees of the six Buddhas.

### 1. PIPAL

It is known as the Bodhitree of Gautam Buddha. A special form of temple is also connected with Bodhitree. It consists of a gallery, supported by pillars, encircling the tree. A large number of reliefs illustrate such temples at Sānci, Bharhut, Mathurā and Amarāvati.<sup>229</sup>

### 2. BANYAN TREE

It is depicted specially where a group of elephants are paying homage to this tree.<sup>230</sup>

### 3. PATAKI TREE

It is depicted in full flowering state.<sup>231</sup> Other trees of worship were Śāla, Śirīṣa and Udumbara.

## II. Terracotta Discs

The tradition of terracotta discs continues from P.G.W. period. A number of terracotta discs have been reported during the course of excavation from various sites like Allahapur,<sup>232</sup> Ayodhya,<sup>233</sup> Bateśwara,<sup>234</sup> Jajmau,<sup>235</sup> Masaon,<sup>236</sup> Nāgdā,<sup>237</sup> Noh,<sup>238</sup> Pariar,<sup>239</sup> Prahādpur,<sup>240</sup> Rajghat,<sup>241</sup> Śrāvastu,<sup>242</sup> Sarai-Mohana,<sup>243</sup> Ujjain,<sup>244</sup> Atranjikhera,<sup>245</sup> Hastinapur,<sup>246</sup> etc.

At Atranjikhera (Plate: LXIII-3) their size varies between 2.25 cms-5.5 cms. Of these, those having diameter 3 cm, 3.25 cm and 3.5 cm were popular. Though Lal considered them game counters, in view of their finish and symbols they appear to be ritualistic.<sup>247</sup>

Terracotta discs from Masaon<sup>248</sup> were found bearing incised marks of trident, Swastika, round circles, radiating lines from one central point. Terracotta discs from Noh<sup>249</sup> were found incised and scalloped. At Prahādpur,<sup>250</sup> terracotta discs (Plate: CXIII-2) are in abundance and of varied designs. They are flat circular objects of well fired clay with graded series of weight, diameter and thickness. Unlike pottery discs these are fashioned intentionally for use and are exclusively decorated by making incised designs on both surfaces. The designs are executed preferably on the edge along the periphery but are also seen on the centre and even scattered all over the surface.

At Rajghat<sup>251</sup> 11 terracotta discs were found with finger nail patterns and two were perforated. They were made of well levigated clay and fired under oxidizing conditions giving them a bright red surface colour. One disc was found with stamped rosette designs. From Atranjikhera<sup>252</sup> numerous terracotta discs were found having incised or crescent notches on circumference or plain. From Hastinapur<sup>253</sup> a broken terracotta disc (Plate: CXIII-I) was found with rosette design on one side and Swastika on the other.

A complete specimen decorated on the edge with two sets of parallel loops. On one side in the centre are set of oblique strokes representing some symbol. On the other side is swastika design. It is treated with black slip on both sides.<sup>254</sup>

### I. Amulets

Ten terracotta amulets were found from Atranjikhera<sup>255</sup> (Plate: CXIII-4 to 8). They were all moulded. Symbols on them were taurine, fish, drum (?), snake (?) bird, disc. From Mathura<sup>256</sup> carnelian amulets were found, while from Oriup<sup>257</sup> bone talisman was reported.

### J. Fire Recepticle

From Dangawāda<sup>258</sup> two fire recepticles were found. They belonged to about c 1st cent. B.C. indicating the revival of vedic rites. Out of two, one was square and other semicircular. Carbonized grains were also found from several pots used for the rites. A bell and a votive capital of copper were also found here.

### K. Ritualistic Pots

From Atranjikhera,<sup>259</sup> five specimens of ritualistic pots were found. They had Sagger, flat or round base with thick section. Some of them had slightly closing sides, in one case slightly raised sides having a channel lip. In three cases they were with small hole below the rim. They were made of medium fabric. They were either sundried, ill fired or may be well fired.

From Śrāvasti,<sup>260</sup> a terracotta ritualistic object was found. It had beaked projections on either side.

In State Museum, Lucknow,<sup>261</sup> there is an unidentifiable terracotta animal. It has too many holes on top suggesting its use as stick holder.

### L. Votive Tanks

Six specimens of miniature votive tanks have been found from Atranjikhera.<sup>262</sup> They are of two types:

- (a) Four legged oblong tank with a narrow channel forming the rim.
- (b) A bowl like tank having either flared or vertical featureless rim with miniature lamps afixed.

Terracotta votive tanks have also been reported from Besnagar.<sup>263</sup> From Jajmau<sup>264</sup> both bone and terracotta votive tanks have been reported.

From Mathura<sup>265</sup> different types of terracotta votive tanks have been reported. Probably they served as the representatives of the cult worship and served as movable shrines. It appears that these terracotta vessels were filled with water. Clay lamps were put at regular intervals on rim and the birds were perched, water creatures like fish, frog or snake were made on the surface. Sometimes a pillar with a lotus capital was projected in the centre. One terracotta votive tank<sup>266</sup> shows seven females sitting on the bottom and each carrying a bowl. According to Haertel, it might be serving a purpose of *Saptamātraka* or *Aṣtamātraka* worship, who received offerings in the bowl on the lap.



## NOTES &amp; REFERENCES

1. For structural details see Chapter on Architecture.
2. Cf. M. D. Khare, *IAR* 1964-65, pp. 19-20.
3. Cf. Y. D. Sharma, *A.I.* no. 9, p. 153.
4. R. C. Gaur, *op. cit.*, p. 256, fig. 75.
5. Cf. Y. D. Sharma, *A.I.* No. 9, pp. 147-148.
6. Cf. B. P. Sinha, *IAR* 1966-67, p. 6.
7. R. C. Majumdar, *op. cit.*, p. 432.
8. *Ibid.*, p. 438.
9. 329.54 in American Institute of Indian Studies, Varanasi.
10. R. C. Majumdar, *op. cit.*, p. 438.
11. *Ibid.*
12. Albert Grunwedel, *op. cit.*, pp. 1-26.
13. 56.394, State Museum, Lucknow.
14. G. 215.
15. R. C. Majumdar, *op. cit.*, p. 465.
16. *Ibid.*
17. Bharat Kala Bhawan, Varanasi.
18. Benjamin Rowland, *op. cit.*, p. 91; cf. 296-19 in American Institute of Indian Studies, Varanasi.
19. C. C. Das Gupta, *op. cit.*, p. 152.
20. L. A. Waddell, *op. cit.*, pp. 29-35.
21. S. C. Kala, *op. cit.*, p. 105.
22. 34. 2552 in Archaeological Museum, Mathura.
23. C. Siva Ram Murty, *op. cit.*, pp. 20-21.
24. T. A. Gopinath Rao, *Elements of Hindu Iconography*, Vol. II, Part II, Appendix B (1961), pp. 263-265; cf. J. H. Marshall, *Taxila (ASIAR 1926-27)* (1930), p. 117.
25. 60.58, National Museum, New Delhi.
26. 322.59 in American Institute of Indian Studies, Varanasi.
27. C. Siva Ram Murti, *op. cit.*, pp. 20-21.
28. 110.86 in American Institute of Indian Studies, Varanasi.
29. R. C. Majumdar, *op. cit.*, p. 456.
30. *Ibid.*
31. *Ibid.*, p. 460.
32. Cf. Vijay Kant Misra, *IAR* 1955-56, p. 22.
33. Cf. M. D. Khare, *IAR* 1963-64, pp. 16-17.
34. C. C. Das Gupta, *op. cit.*, p. 152.
35. C 2.54c in American Institute of Indian Studies, Varanasi.
36. 79.26/6 and 79.24/6, State Museum, Lucknow.
37. Cf. K. M. Srivastava, *IAR* 1975-76, p. 50, plate LVI-A.
38. 11124, Bharat Kala Bhawan, Varanasi.
39. H4, State Museum, Lucknow cf. A. K. Coomaraswamy, *op. cit.*, p. 32.
40. 52.3625, Archaeological Museum, Mathura.
41. K. P. Jayaswal, 'Terracottas dugout at Patna' (*JISOA* Vol. III, 1935), p. 126, plate xxxii, fig. 1.
42. S. K. Saraswati, *op. cit.*, p. 108.
43. S. C. Kala, *op. cit.*, p. 34.
44. Benjamin Rowland, *op. cit.*, p. 88.
45. *Ibid.*
46. 79.22/6 in State Museum, Lucknow.
47. Albert Grunwedel, *op. cit.*, pp. 1-26.
48. R. C. Majumdar, *op. cit.*, p. 470.
49. B. P. Sinha and Sita Ram Roy, *op. cit.*
50. K. K. Sinha, *op. cit.*
51. G. R. Sharma, *op. cit.*
52. Cf. B. B. Lal in *IAR* 1970-71.
53. Cf. B. P. Sinha in *IAR* 1974-75.
54. R. C. Gaur, *op. cit.*
55. 78.942 in National Museum, New Delhi.

56. V. S. Agrawala, *Indian Art*, pp. 308-315.
57. K. K. Sinha, *op. cit.*, pp. 52-55.
58. S. C. Kala, *op. cit.*, p. 25.
59. G. R. Sharma, *op. cit.*, p. 77.
60. R. C. Gaur, *op. cit.*, p. 366, pl. LXXIX-1 also 487.62 Kanauj Museum and 42-43.3042 Mathura Museum.
61. 78.942 in National Museum, New Delhi.
62. 9713 Bharat Kala Bhawan, Varanasi.
63. Since the deity holds lotus stalk in her hand, it has been identified as Laksmi also.
64. 9.33 Allahabad Museum.
65. E. H. Johnston, 'A terracotta figure at Oxford', (*JISOA*, 1942), pp. 94-102.
66. 22.331, Bharat Kala Bhawan.
67. Cf. B. P. Sinha, *IAR* 1972-73, pp. 6-7.
68. Cf. V. S. Agrawala, *A.I.* no. 4, 1947-48.
69. Cf. M. C. Joshi, *IAR* 1976-77, p. 54.
70. Cf. R. C. Agrawala, *IAR* 1963-64, p. 29.
71. D. B. Spooner, Excavations at Basarh (*ASIAR* 1913-14, 1917), pl. xliv.c.
72. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
73. Cf. Raghbir Singh, *IAR* 1972-73, p. 7.
74. Mathura museum.
75. K. K. Sinha, *op. cit.*, p. 52.
76. B. P. Sinha and S. R. Roy, *op. cit.*, pp. 153-154.
77. V. S. Agrawala, *A.I.* no. 4 (1947-48).
78. A. K. Narain and P. K. Agrawala, *op. cit.*, p. 67.
79. A. K. Narain and T. N. Roy, *Excavation at Prahladpur*, pp. 44-45.
80. G. R. Sharma, *IAR* 1957-58, p. 48.
81. R. C. Gaur, *op. cit.*, p. 366.
82. B. B. Lal, *IAR* 1970-71, pp. 8, 10.
83. Y. D. Sharma, *A.I.* no. 9, pp. 123-126, pl. XLVIII-B.
84. 59.534/3 in National Museum, New Delhi.
85. 155.97 and 155.94 in American Institute of Indian Studies, Varanasi.
86. 155.96 in *Ibid.*
87. For details of Ring Stones see Chapter on Art.
88. 82.188 State Museum, Lucknow.
89. 2/200.83 Bharat Kala Bhawan, Varanasi.
90. N. G. Majumdar, 'Excavations at Lauriya Nandangarh' (*ASIAR*, 1936-37), pl. xxiv.15, 1940.
91. 41.20 State Museum, Lucknow.
92. A. K. Coomaraswamy, *Archaic Indian Terracotta (IPEK)* pp. 64-76, tabl. 4, no. 26, 1928.
93. R. C. Gaur, *op. cit.*, p. 366, pl. LXXIX-2.
94. Cf. R. B. Narain, *IAR* 1965-66, p. 51.
95. Cf. H. Haerfel, *IAR* 1966-67, p. 42.
96. Allahabad Museum, No. R. 2135.
97. Cf. K. M. Srivastava, *IAR* 1975-76, p. 50, pl. LIVA.
98. No. 2693 in National Museum, New Delhi.
99. 311-75 in American Institute of Indian Studies, Varanasi.
100. 249-85 in *Ibid.*
101. S. C. Kala, *op. cit.*, pp. 67-68.
102. Cf. M. C. Joshi, *IAR* 1976-77, p. 54.
103. Cf. Raghbir Singh, *IAR* 1974-75, p. 11.
104. Cf. A. S. Altekar, *IAR* 1960-61, p. 5.
105. Cf. K. K. Sinha, *IAR* 1958-59, p. 50.
106. S. C. Kala, *op. cit.*, pp. 67-68.
107. Cf. A. S. Altekar, *IAR* 1960-61, p. 5.
108. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 153-167.
109. Cf. B. S. Verma, *IAR* 1963-64, p. 8.
110. Cf. B. P. Sinha, *IAR* 1971-72, p. 5.
111. Cf. V. H. Jackson, *JBORS*, Vol. xiii, pt. II, June 1927, pp. 126-127.
112. K. K. Sinha, *op. cit.*, pp. 52-55.

- Sastri, 'Maurya Sculptures from Lohanipur, Patna', *Ibid.*, XXVI, 1940, pp. 120-24; cf. A. Ghosh, *op. cit.*, p. 71.
171. A. Ghosh, *Ibid.*, p. 71.
  172. D. B. Spooner, *op. cit.*, (1917), plate XLV.d.
  173. R. C. Majumdar, *op. cit.*, p. 426.
  174. L. A. Waddell, *op. cit.*, pp. 51-60.
  175. R. C. Majumdar, *op. cit.*, p. 426.
  176. Buhlar, *The Indian Sect of the Jainas*, Appendix A; cf. V. A. Smith, *Jain Stupa and other antiquities of Mathura*, p. 13; cf. J. Ph. Vogel, *Catalogue of the Archaeological museum at Mathura*, 41-3, 66-82.
  177. State Museum, Lucknow.
  178. J. 252, J. 253 and J. 686, State Museum, Lucknow.
  179. 8505 B.M. 51/13, National Museum, New Delhi.
  180. *Epigraphia Indica* Vol. II 1893-94.
  181. J. 535, State Museum, Lucknow.
  182. R. C. Majumdar, *op. cit.*, p. 462.
  183. *Ibid.*, p. 463.
  184. M. Taddei, *op. cit.*, p. 44.
  185. Cf. N. R. Banerjee, *IAR* 1963-64, p. 44; cf. nos. AC.V.6/75 and 62.313 in National Museum, New Delhi, cf. nos. 56.517, 56.519, 56.521 and 56.499 in State Museum, Lucknow.
  186. Cf. K. M. Srivastava, *IAR* 1964-65, p. 34.
  187. Cf. P. C. Prasad, *IAR* 1973-74, p. 10.
  188. Cf. A. K. Narain, *IAR* 1969-70, p. 40.
  189. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
  190. Cf. B. P. Sinha, *IAR* 1965-66, p. 11.
  191. Cf. Sita Ram Roy, *IAR* 1972-73, p. 7.
  192. Cf. B. S. Verma, *IAR* 1962-63, p. 6.
  193. Cf. Deptt. of Archaeology, U.P.; *IAR* 1977-78, p. 15.
  194. Cf. B. P. Sinha, *IAR* 1971-72, p. 5.
  195. Cf. K. D. Bajpai, *IAR* 1961-62, p. 18.
  196. Cf. K. N. Dixit, *IAR* 1978-79, p. 61.
  197. Cf. R. C. Singh, *IAR* 1978-79, p. 74.
  198. Cf. Vijay Kumar, *IAR* 1978-79, p. 30.
  199. Cf. R. C. Singh, *IAR* 1976-77, p. 54.
  200. R. C. Gaur, *op. cit.*, pp. 466-472.
  201. Cf. B. B. Lal, *A.I.*, nos. 10 & 11, pp. 85-86.
  202. Cf. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 156-167.
  203. K. K. Sinha, *op. cit.*
  204. No. 79.12/6, State Museum, Lucknow.
  205. No. 60.189, State Museum, Lucknow.
  206. Cf. Sita Ram Roy, *IAR* 1975-76, p. 8.
  207. Cf. V. K. Misra, 1976-77, p. 13.
  208. Venkataramayya, *IAR* 1954-55; pp. 15-16; cf. H. Haenel, *IAR* 1966-67, p. 42; cf. nos. 45.22 and 45.26 in State Museum, Lucknow.
  209. Cf. R. B. Narain, *IAR* 1965-66, p. 51.
  210. Deptt. of Arch., U.P. *IAR* 1978-79, p. 74.
  211. Cf. Vijay Kumar, *IAR* 1965-66, p. 38 and *IAR* 1966-67, p. 31.
  212. Cf. K. M. Srivastava, *IAR* 1974-75, pp. 40-41.
  213. Cf. B. B. Lal, *IAR* 1969-70, p. 4.
  214. Cf. V. K. Misra, *IAR* 1955-56, p. 22.
  215. Cf. A. K. Narain, *IAR* 1957-58, p. 50; cf. A. K. Narain and T. N. Roy, *op. cit.*, p. 28; cf. nos. 40.198 and 49.28 in State Museum, Lucknow.
  216. Cf. A. S. Altekar, *IAR* 1960-61, p. 5 and *IAR* 1956-57, pp. 19-20.
  217. Cf. K. K. Sinha, *IAR* 1958-59, p. 50.
  218. Cf. B. Ch. Chhabra, *IAR* 1965-66, p. 36.
  219. Cf. A. K. Narain, *IAR* 1967-68, p. 49.
  220. Cf. T. N. Roy, *IAR* 1971-72, p. 49.
  221. Cf. N. R. Banerjee, *IAR* 1955-56, p. 19.
  222. Cf. Sita Ram Roy, *IAR* 1961-62.

223. Cf. Raghbir Singh, *IAR* 1974-75, p. 11.
224. R. C. Gaur, *op. cit.*, pp. 466-474.
225. B. B. Lal, *op. cit.*, pp. 85-86.
226. G. R. Sharma, *op. cit.*
227. A. K. Narain and T. N. Roy, *op. cit.*, p. 28.
228. Cf. K. M. Srivastava, *IAR* 1964-65, p. 34.
229. B. B. Lal, *A.I.* nos. 10 & 11, pp. 85-86.
230. A. K. Coomaraswamy, *op. cit.*, p. 33.
231. V. S. Agrawala, *op. cit.*, p. 139.
232. *Ibid.*
233. Cf. Romila Thapar, *IAR* 1970-71, p. 41.
234. Cf. A. K. Narain, *IAR* 1969-70, p. 40.
235. Cf. J. S. Nigam, *IAR* 1975-76, p. 43.
236. Cf. R. C. Singh, *IAR* 1976-77, p. 54.
237. Cf. R. B. Narain, *IAR* 1965-66, p. 51 & *IAR* 1967-68, p. 47.
238. Cf. N. R. Banerjee, *IAR* 1955-56, pp. 11, 14.
239. Cf. Vijay Kumar, *IAR* 1971-72, p. 42.
240. Cf. B. B. Lal, *IAR* 1971-72, p. 62.
241. Cf. B. P. Singh and T. N. Roy, *IAR* 1962-63, p. 41.
242. A. K. Narain and P. Singh, *op. cit.*, pp. 55-65; cf. A. K. Narain, *IAR* 1968-69, p. 41.
243. K. K. Sinha, *op. cit.*, pp. 69-71.
244. Cf. A. K. Narain, *IAR* 1967-68, p. 49.
245. Cf. N. R. Banerjee, *IAR* 1955-56, p. 19.
246. R. C. Gaur, *op. cit.*, p. 386.
247. B. B. Lal, *op. cit.*, p. 88.
248. R. C. Gaur, *op. cit.*, p. 386-391.
249. Cf. R. B. Narain, *IAR* 1965-66, p. 51.
250. Cf. Vijay Kumar, *IAR* 1971-72, p. 42.
251. A. K. Narain and T. N. Roy, *op. cit.*, pp. 48, 56.
252. A. K. Narain and P. Singh, *op. cit.*, pp. 55-65.
253. R. C. Gaur, *op. cit.*, p. 386.
254. B. B. Lal, *op. cit.*, p. 88.
255. A. K. Narain and T. N. Roy, *op. cit.*, p. 53; cf. R. C. Gaur, *op. cit.*, pp. 388-389, nos. 2 & 5 and p. 391, no. 21.
256. R. C. Gaur, *op. cit.*, p. 376.
257. Cf. M. Venkataramayya, *IAR* 1954-55, pp. 15-16.
258. Cf. B. P. Sinha, *IAR* 1966-67, p. 6.
259. Cf. V. S. Wakankar, *IAR* 1978-79, pp. 70-71.
260. R. C. Gaur, *op. cit.*, p. 382.
261. K. K. Sinha, *op. cit.*, pp. 58-60.
262. No. 60.189, State Museum, Lucknow.
263. R. C. Gaur, *op. cit.*, p. 383.
264. Cf. M. D. Khare, *IAR* 1963-64, pp. 16-17.
265. Cf. R. C. Singh, *IAR* 1976-77, p. 54.
266. R. C. Sharma, *op. cit.*, p. 87.
267. *Ibid* pp. 87-88.

## ARMS AND ARMAMENTS

### A. Fortification

Fortification was an important aspect of military science. Most of the cities of our period of study were fortified, such as Kauśāmbi,<sup>1</sup> Atranjikhera,<sup>2</sup> Jakhera,<sup>3</sup> Mathura,<sup>4</sup> Śrāvastu,<sup>5</sup> Ahichchhatra,<sup>6</sup> Prahlādpur,<sup>7</sup> Pataliputra,<sup>8</sup> Rājgir,<sup>9</sup> Campā,<sup>10</sup> Ayodhya,<sup>11</sup> Rājghāt,<sup>12</sup> Vaiśālī,<sup>13</sup> Katragarh,<sup>14</sup> Balirājgarh,<sup>15</sup> Besnagar,<sup>16</sup> Moradhvaj,<sup>17</sup> Noh,<sup>18</sup> Singhol,<sup>19</sup> Ujjain,<sup>20</sup> Malhar,<sup>21</sup> Taxila,<sup>22</sup> Chandraketugarh,<sup>23</sup> Bangarh<sup>24</sup> etc.

The ideal fortification described in Arthaśāstra resembles with the description of Pataliputra. An important example is that of Rājgir, where a long wall of roughly hewn stones is protecting the city. The defences of Śīsupalgarh were certainly smaller and less elaborate.<sup>25</sup> At Pataliputra,<sup>26</sup> the wooden wall was pierced with loopholes for discharge of arrows. At most of the sites the defence wall was associated with a ditch outside as in case of Ayodhya,<sup>27</sup> Besnagar,<sup>28</sup> Katragarh,<sup>29</sup> Kauśāmbi,<sup>30</sup> Pataliputra,<sup>31</sup> Jakhera,<sup>32</sup> Ujjain,<sup>33</sup> Vaiśālī,<sup>34</sup> etc.

Sometimes these defence walls were crowned with towers. At Pataliputra,<sup>35</sup> it had 570 towers. At Atranjikhera,<sup>36</sup> Katragarh,<sup>37</sup> Kauśāmbi,<sup>38</sup> and Taxila<sup>39</sup> masonry watch-towers have been noticed during the course of excavation. For detailed description of fortification see chapter on Architecture.

### B. The Army

Although different types of weapons have been found during the course of excavations at different sites, they do not provide any clue about the nature of army or its different constituents. However, some depictions have been found in the sculptures and terracottas of the period.

We find scenes depicting four fold army in different panels, on South, East and West gateways of Sanci. In one scene, on western gateway we find the arrangement of the four arms in which the foot soldiers are in the foremost part and behind them are elephants, then horses and chariots in the end. In a panel on southern gateway the army is shown in action<sup>40</sup> (Plate: CXIV-A). All four folds of army have been shown. Some of the soldiers have been shown wearing Kamar band made of rope wound round the body. The method of defence consists not only in shooting arrows, but in throwing down stones from the ramparts on the enemies. The different kinds of weapons shown are bows, pikes, swords and perhaps clubs.

#### 1. THE INFANTRY

In a scene on the southern gateway of Sanci, foot soldiers have been shown engaged in war. The archers have been shown attacking the guarded city gate of Kuśīnagar mainly

with bows and arrows while others are shown responding to their attack, from the upper balconies of the gatehouse, with the help of spears, clubs and stones.<sup>41</sup>

According to Arrian,<sup>42</sup> all the foot soldiers carried a sword with a broad blade not longer than three cubits. In their left hands they used to carry shields of oxhide. They also carried a bow and sometimes a javelin in place of bow.

A gateway pillar from Sanci depicts a *dvarpala* (Plate: CXV-A). He is holding a spear in his left hand and a case of sword or dagger (?) is hanging on his right side. It is not clear whether it is holding an arm or not. The knouted thongs crossing over the broad scabbard of the sword are fastened by a pin with a *nandipada* head.<sup>43</sup> The *dvarpala* is wearing a *dhoti* with its one end hanging on the left arm.

A terracotta warrior<sup>44</sup> made with the help of double mould is also shown with a bow and arrows in his hands. He is wearing a tunic type garment in upper portion and a band tied in the waist. In his lower portion he appears to be wearing a trouser. Another warrior in terracotta<sup>45</sup> is shown holding a dagger in his right hand. It is in the form of an amulet.

A Śunga terracotta plaque<sup>46</sup> shows two boxers in action. This suggests that probably boxing was also a mode of fighting in war as well as a source of entertainment.

## 2. CHARIOTS

It is interesting to note that in Sanci sculptures<sup>47</sup> wherever an army has been shown, only one chariot is depicted carrying only two persons; the driver and the warrior, the latter is shown standing. The chariots shown at Bodhgaya<sup>48</sup> are also of the same type. Even in mythical depictions only two persons are shown riding in a chariot. At Patna<sup>49</sup> a terracotta image of Śūrya was found in a four horsed chariot accompanied by an attendant with bows and arrows. These chariots were drawn either by two or four horses. However, Strabo<sup>50</sup> refers to horse driven chariots accommodating six persons, two archers, two shield bearers and two charioteers<sup>51</sup> (Plate: XCVI-B). According to Strabo,<sup>52</sup> wheels of carriage were made from the branches of trees. In support of Strabo's description a wooden wheel of a chariot belonging to c. 3rd cent. B.C. was brought to light from Bulandibagh Patna. Its diameter is 1.220 m (Plate: LXV B).

## 3. ELEPHANTS

Elephants were an important component of the army. At Sanci<sup>53</sup> wherever there is a depiction of army, five to eight elephants are shown. These elephants usually carry three persons:

- (i) the warrior or the kind, sitting in front and piercing the forehead skin of the animal with a goad or *ankuśa* (Plate: CXIV-A);
- (ii) the man sitting in the middle generally held a *cauri* or flywhisk and sometimes in another arm a bow and arrows and;
- (iii) the third person holding an umbrella or the standard with a flying banner used to sit behind.

The cast copper, coins excavated at Śravastī<sup>54</sup> depict ceremonial standard (in fact *ankuśa*) on their obverse probably as a royal sign. Terracotta elephants have been found from almost all the excavated sites.<sup>55</sup> While from Ahichchhatra<sup>56</sup> terracotta elephants with decorated caprison have been found from Pataliputra<sup>57</sup> and Mathura<sup>58</sup> terracotta elephants have been found with traces of two men riding on their back.

#### 4. CAVALRY

Horse was given a considerable importance from Vedic period because it was yoked in chariot as well as formed an independent wing of army.<sup>59</sup> The horses as a wing of army have been represented both at Sañci and Bharhut as well as in terracotta art of the period. At Sañci,<sup>60</sup> they have been represented in the scenes depicting the 'war of relics', 'royal processions' and 'the fleeing army of Māra' while at Bharhut<sup>61</sup> they have been represented as chargers (Plate: CXIV-B). Terracotta horse figurines have been excavated from almost all the sites. Terracotta horses from Buxar,<sup>62</sup> Pataliputra<sup>63</sup> and a few other places are shown with bridle. Terracotta horses with riders have been found from places like Vaiśālī.<sup>64</sup> One such piece is in the National Museum, New Delhi (No. 81.474). According to Arrian<sup>65</sup> the horsemen were equipped with two lances and a short buckler.

According to Kautilya<sup>66</sup> elephants, chariots and horses were decorated with ornaments. According to him goads and hooks were necessary items to lead elephants and horses to the battle fields.

#### C. Weapons

With the excavation at Atranjikhēra, the antiquity of iron was pushed back to circa 1200 B.C. on the basis of C-14 dating from the mid-level of the deposit. Later on attempts were made to push its antiquity further back, in the Black-and-red ware level.<sup>67</sup> However, the evidences on which the conclusion has been drawn, are of dubious nature, and, therefore, the suggestion is not reliable.<sup>68</sup>

During PGW period the iron was primarily used for war-seapons. For other purposes its use was limited. However, from the NBPW period its use became extensive. Now it was also used for making agricultural tools, building material and artisan tools including those of blacksmiths and carpenters. Blacksmiths' furnaces were noticed more frequently at various sites during the NBPW phase. Actually it was fullfledged iron age.

At Ujjain<sup>69</sup> along with finished iron objects a large quantity of iron slags, lumps of iron ore in the form of limonite were found which appear to be locally available in the trap bed-rock.

##### 1. MISSILES OR BALLISTA BALLS

In a panel at Sañci<sup>70</sup> depicting the war of relics a big stone used as a weapon to be thrown at the enemy by hand has been illustrated. In this panel a person is shown throwing a huge stone from the rampart on to the assailants. In his raised hands he holds the stone to throw it with force. Thirty-five crudely modelled spherical solid pieces of terracotta were found from period IV (NBPW Phase) at Atranjikhēra<sup>71</sup> (See Plate: CXVI-A). As their shape and size suggest, these were probably used as ballista balls. The majority of balls have come from one trench which revealed major evidences of defences.

Kautilya<sup>72</sup> has also described three types of stones to be used in war:

- (1) which could be thrown by machine,
- (2) which could be thrown by a rod, and
- (3) which could be hurled by hand.

He also describes a leather cover or bag filled with cotton or wool to protect the towers, roads etc., against stones thrown by enemies.<sup>73</sup> These include spades (Kudals), axes, varieties of staffs, cudgels (muermthi), hammers, clubs, discus and machines (*yantra*).<sup>74</sup>

## 2. CLUB

No club has been found during any of the excavations but it has been depicted in the panels of Sañci gateways.<sup>75</sup> These clubs invariably had nobs at the grip end. The upper portions were of two types: (1) Cylindrical, (2) tapering.

The cylindrical types can be seen in the war scene on the southern gateway.<sup>76</sup> Both offenders and defenders have been equipped with this arm. The tapering ones,<sup>77</sup> both plain and decorated, can be seen on one of the pillars of southern gateway and on the back of the western gateway. A soldier is shown on the parapet wielding this arm with his right hand on the southern gateway.<sup>78</sup> Another soldier on the same gateway on the extreme right side of the city gate is shown raising it over his head with both hands<sup>79</sup> (Plate: CXVII-A). In Mathura Museum a sculpture of a Yakṣa is shown holding a club in his right hand and a human figure in his left arm. He has a smile on his face which could be as a result of victory (Plate: CXVI-B).

## 3. MACE

Though mace is also depicted on Sañci panels, no specimen has been obtained during excavations so far. In Sañci,<sup>80</sup> panels it has been shown more than once in the scenes depicting 'Aśoka's visit to the Bodhi tree', 'war of relics' and 'Māra's army'. It has a shaft and an ovoidal head. The head of mace is less bulged than the club. Kautilya<sup>81</sup> has described *Mūsala*, *Yaśū* and *Gadā* (mace) among the immovable machines.

## 4. SPEAR

The foot soldiers were armed with bow and arrow or long spears and oblong shields. The spears were wrapped round with ivy (an evergreen climber) and had a sharp point.<sup>82</sup>

We have as many as five clear representations of foot soldiers holding this weapon in the war scene on the Southern Gateway of Sañci.<sup>83</sup> There are others in the hands of defenders standing on the parapets and balconies. We also find the representation of spears in other scenes like 'the war of relics', 'the fleeing army of Māra' and 'a royal procession'. Other than military men, hunters have also been shown using this weapon. A *dvarpāla* on the south pillar of western gateway at Sañci is shown holding a long spear (Plate: CXV-A).

Kautilya<sup>84</sup> has described such weapons which have edges like plough share and mentioned their eleven varieties according to the types of edges.

Almost all excavations including Masaon,<sup>85</sup> Noh,<sup>86</sup> Oriup,<sup>87</sup> Sonapur,<sup>88</sup> Tumain,<sup>89</sup> Ujjain,<sup>90</sup> Jajmau,<sup>91</sup> Mathura,<sup>92</sup> Hastinapur,<sup>93</sup> Allahpur,<sup>94</sup> Atranjikhhera<sup>95</sup> and Jakhera,<sup>96</sup> have yielded iron spearheads (Plates: CXVII-B; CXVIII) of various types.

A few types are worth mentioning:

- (1) Triangular elongated blade gradually tapered to angular point having biconvex cross-section.<sup>97</sup>
- (2) Spearhead with elongated long blade with a short tang tapered to a round tip having elliptical cross-section.<sup>98</sup>
- (3) Leaf shaped flat blade tapered to a round tip or that having biconvex cross section,<sup>99</sup> or having lozenge cross-section with plain tang.<sup>100</sup>
- (4) Cylindrical blade with a pointed tip with short shaft.<sup>101</sup>
- (5) Dagger shaped blade having straight sides tapered to a rounded tip with elliptical cross-section.<sup>102</sup>
- (6) Blade having square cross-section and a plain tang.<sup>103</sup>



Wedge shaped and highly polished stones with a sharp chisel edge from Pataliputra,<sup>104</sup> perhaps also served as spearheads.

On the basis of Atranjikhera,<sup>105</sup> their length varies from 3.5 to 21.5 cms. in general.

#### 5. JAVELIN

A few specimens of Javelin (different from spearhead) have also been found during excavations (Plate : CXIX-1 to 4) from Taxila, Kauśāmbi and Atranjikhera.

At least following three types are noteworthy :

1. Long point with rectangular cross-section and socketed.<sup>106</sup>
2. Circular cross-section with socketed head.<sup>107</sup>
3. A cylindrical blade with a pointed tip badly corroded appears to be a piece of javelin. Its length is about 12 cms.<sup>108</sup>

#### 6. BOWS AND ARROWS

In the time of Megasthenes, says Arrian, 'the infantry usually carried a bow of the same length with the bearer,<sup>109</sup> which in most cases appears to be partially true from Sānci carvings'. However, his other statement that, 'resting the bow on the ground and pressing them with the left foot, the soldier discharged the arrow'<sup>110</sup> is not corroborated by the bas-reliefs at Sānci. The bow in operation has been represented in many panels but nowhere it is shown as resting on the ground. On the other hand, it is always held high in the left hand pointed towards the aim.<sup>111</sup> In the lowest architrave of southern gateway of the great stūpa of Sānci,<sup>112</sup> a battle scene is beautifully carved and the soldiers are seen attacking the enemies with stones, bow and arrows. In the sculptural remains of Bharhut stūpa are found the representation of procession of foot-soldiers carrying bows and arrows.<sup>113</sup> (Plate: CXIV-A)

Although the material of the bows depicted in sculptures can not be determined, they can be classified according to their shapes into three groups:

Mostly the bows represented in Sānci reliefs<sup>114</sup> seem to be made of one curved piece of stick as shown with the jungle dwellers on the front of Eastern Gateway illustrating *Vesantara jātaka*, etc.

Some of them have two curves as represented in *Syāma jātaka* and the war of relics. Apparently they were made of two big pieces of bamboo chips having a handle of another straight piece of stick in the middle.

The third type was a triple curved bow which could have been built of three pieces of wood. It has been represented at Sānci in 'Māra's army' and '*Mahākapi jātaka*' scenes.

Kautilya has described bows made from different woods and given their different names.<sup>115</sup> According to him bow-strings were made from different materials.<sup>116</sup>

A terracotta figurine in double mould holds a bow and arrows in his hands.<sup>117</sup> Terracotta plaques from Mathurā depicting Kāmadeva also represent bows and arrows (Plates: XCVII; XCVIII-A).

Punch marked coins also exhibit the evidences of various types of weapons such as tridents, bow and arrows, lence and battle axe (*Paraśu*).<sup>118</sup>

#### Arrows

About the arrows used in the 326 B.C. by the Indian archers against the force of Alexander, Arrian<sup>119</sup> says, "their arrows are little less than three cubit long, and fly with such force that neither shield nor breast plate or any armour is strong enough to withstand them."

The arrows shown in the bas-reliefs of Sanci and Bharhut appear to be from three to five feet in length.<sup>120</sup>

Arrowheads in ancient India were manufactured from various substances notably bone, horn, stone and after the use of metal was discovered, of bronze, iron and finally steel.<sup>121</sup>

Atranjikerā has been very rich site in yielding a large number of arrow heads made of iron and bone. To our period of study belong 30 specimens of iron and 132 of bone.<sup>122</sup>

Bone arrowheads (Plate: CXIX-5 to 8) have also been excavated at Hastinapur, Ujjain, Maheśwara, Taxila, Eran, Ruper, Sonapur, etc. At Ujjain and Nāsik two big hoards of several thousand of bone arrowheads each belonging to 3rd-2nd centuries B.C. have been found.<sup>123</sup>

Kautilya<sup>124</sup> has described different kinds of arrows. According to him the arrowheads were made of iron, bone or wood as to cut, rend or pierce.

The iron arrowheads (Plate: CXX; CXXI) have been reported from the early levels of NBPW from several sites such as Kauśāmbi, Hastinapur, Atranjikerā, Śiśupālgarh, Maheśwar, Eran, etc.<sup>125</sup> They continue in the level of 2nd-1st cent. B.C. at Hatnāpur, Atranjikerā, Besnagar, Sambhar, Ujjain, Nevasa, Prabhas pattan, etc. The arrowheads from these sites range from 1' inch to 5.5 inches in length. The two basic types viz. leaf shaped and triangular barbed, both in socketed and tanged varieties were constantly met within all these cases.<sup>126</sup> The arrowheads unearthed from Kauśāmbi<sup>127</sup> are of eleven types. These arrowheads are of iron and bone. One of them has a knife blade and lozenge cross section. These sharp and broad blade varieties must have been useful in cutting bow strings of the enemy as well as the limbs of the human body.

Though no remains of any bow has been found in any excavations, a large number of arrowheads made of iron or bone have been found from various excavations, like Kauśāmbi,<sup>128</sup> Jajmau,<sup>129</sup> Atranjikerā,<sup>130</sup> Hastinapur,<sup>131</sup> Allāhapur,<sup>132</sup> Śrāvasu,<sup>133</sup> Pataliputra,<sup>134</sup> Rājgir,<sup>135</sup> Campā,<sup>136</sup> Rājghat,<sup>137</sup> Masaon,<sup>138</sup> Piprahwa and Ganwāria,<sup>139</sup> Cirand,<sup>140</sup> Sonapur,<sup>141</sup> Eran,<sup>142</sup> Ahar,<sup>143</sup> Noh,<sup>144</sup> Jodhpura,<sup>145</sup> Ujjain,<sup>146</sup> Tumain,<sup>147</sup> Ranihat,<sup>148</sup> and Hulaskhera.<sup>149</sup> Their sizes generally vary from 3 cms. to 10.6 cms.

Iron specimens from Atranjikerā are alone of nine types, of which four continued from previous PGW phase. Kauśāmbi and Ujjain specimens are divisible into three groups at each site. Their important types are given below:

1. Leaf shaped blade having rounded tip, circular shaft and almost elliptical cross section.<sup>150</sup> At Ujjain it had a tang,<sup>151</sup> while at Kauśāmbi,<sup>152</sup> it had two curved hooks at the junction of the blade and the tang.
2. Bud shaped arrowheads with circular cross section.<sup>153</sup>
3. Triangular blade with pointed tip or with a midrib with barbs having a circular cross section of flat blade having biconvex section or with pointed tip elliptical tapering sides and rectangular cross section.<sup>154</sup>
4. Cylindrical long body having flat crescentic piercing tip with short tang and circular cross section.<sup>155</sup> Similar specimen with single tang has also been found from Kauśāmbi.<sup>156</sup>
5. Slightly barbed having almost rectangular cross section with club shaped shank.<sup>157</sup>
6. Arrowhead with conical blade as well as socketed.<sup>158</sup>
7. Arrowhead with knife blade having lozenge cross section with double tang.<sup>159</sup>
8. Arrowhead with slightly tapering body and tanged.<sup>160</sup>

### Bone Arrow-heads

Bone arrowheads have been very popular right from PGW period. They are of rich variety, bear lustrous surface and some are decorated too. Almost all important sites have yielded bone arrow-heads. Noteworthy sites are Kauśāmbī,<sup>161</sup> Jajmau,<sup>162</sup> Atranjikhērā,<sup>163</sup> Hastināpur,<sup>164</sup> Hulaskherā,<sup>165</sup> Śrāvasu,<sup>166</sup> Pataliputra,<sup>167</sup> Rājgir,<sup>168</sup> Chāmpā,<sup>169</sup> Rājghat,<sup>170</sup> Cirand,<sup>171</sup> Sonēpur,<sup>172</sup> Eran,<sup>173</sup> Ujjain,<sup>174</sup> Taxilā,<sup>175</sup> Tuman,<sup>176</sup> etc. As has been referred to Atranjikhērā yielded maximum number and of various types. Noteworthy specimens are described below:

1. Long fine point made of ivory, single tanged with circular cross-section,<sup>177</sup> almost similar specimen in bone has been found with lustrous surface at Atranjikhērā as well.<sup>178</sup> Socketed arrowheads of ivory and horns have been found from Sonēpur.<sup>179</sup>
2. Arrowhead with irregular trapezium shape.<sup>180</sup>
3. Arrowhead with pointed head having semicircular cross-section have been found both at Atranjikhērā<sup>181</sup> and Kauśāmbī.<sup>182</sup> At both places some specimens have single tang. At Atranjikhērā one specimen has double barb.
4. Tanged arrowhead with lustrous surface has been noticed from Atranjikhērā.<sup>183</sup>
5. A socketed arrowhead with semicircular cross-section has flared double barbs. It is noteworthy for being decorated with double incised ringlets on both the sides<sup>184</sup> (Atranjikhērā and Kauśāmbī).  
Taxilā has also yielded arrowhead with trilateral point with socket hole.<sup>185</sup>
6. Arrowheads with trilateral points and with a tang different from that found at Taxilā with hollow socket.<sup>186</sup>
7. Bulbous arrowhead, socketed having circular cross-section. This is noteworthy because its socket contains part of an iron shaft.<sup>187</sup>

A fair number of small stones, have been found at Patna whose shape, polish and other features suggest their artificial origin. Out of them some pyramidal stones, highly polished, with three faces meeting at a point look like arrowheads.<sup>188</sup>

A large number of bone points have been reported during the excavation of various sites like Mathurā,<sup>189</sup> Allahāpur,<sup>190</sup> Hulas,<sup>191</sup> Pariar,<sup>192</sup> Prahādpur,<sup>193</sup> Takiāpur,<sup>194</sup> Sarāi-Mohana,<sup>195</sup> Buxar,<sup>196</sup> Pataliputra,<sup>197</sup> Rājgir,<sup>198</sup> Oriup,<sup>199</sup> Campā,<sup>200</sup> Ayodhya,<sup>201</sup> Rājghat,<sup>202</sup> Masaon,<sup>203</sup> Cirand,<sup>204</sup> Sonēpur,<sup>205</sup> Balirājgarh,<sup>206</sup> Kayatha,<sup>207</sup> Purānā Qilā,<sup>208</sup> Rājā Karaṇa Kā Qilā,<sup>209</sup> Sugh<sup>210</sup> and Tripuri,<sup>211</sup> etc. The possibility of their use as arrowheads cannot be rejected altogether.

### Shafts

Evidence of shafts have also come from Atranjikhērā<sup>212</sup> during period IV (NBPW). One of them is for a spear and others for arrows. Two of them deserve mention.

1. Double tanged with a pointed shaft and rectangular shank. Total length 6.1 cms. and
2. A triangular shaped shaft of a spear with tapering sides to a conical end having rectangular cross-section. Length 7.7 cms.

### Quiver

Although no quiver was found during the course of any excavations, they have been depicted on panels at Sanci.<sup>213</sup> It appears that they were made of hide and leather straps were

secured around it. Their shapes were cylindrical, narrow at the bottom and broader at the top. Mostly they were tied by the archers at their back but sometimes were also taken in hand. A quiver can be seen in the panel depicting *Śyama Jataka*.

### 7. SWORDS

Arrian refers to short and broad swords.<sup>214</sup> Swords have been referred to in various texts including Buddhist Nikayas and Jain canons. In Jain canons it has been named 'Khagga', and 'asikhetaka' when accompanied by a shield.<sup>215</sup>

Kautilya has described different kinds of swords. According to him, the handles of swords were made of the horns of rhinoceros, buffalo, of the tusk of elephant, of wood or of the root of bamboo.<sup>216</sup>

However, no definite evidence of a sword has come so far from an excavation belonging to pre-Kuṣān level.

In Mathura Museum there is a fragment of a sculpture depicting a sword. It can be put among the earliest depiction of sword or part of sword and can be dated to 2nd cent. B.C.<sup>217</sup> In this sculpture we find only the pommel and the guard of the hilt. The blade has been broken.

Another representation of a contemporary sword is that worn by a soldier portrayed on a pillar of the gateway of Bharhut stūpa. It is kept in scabbard and is shown hanging on the left side with the help of a strap.<sup>218</sup> The sword is straight and appears to be double edged as there is no indication on the hilt to indicate that it is not reversible. The blade appears to be about four inch broad and two feet six inches long although it cannot be seen as it is kept in scabbard.<sup>219</sup> Sancti dvarapala on Western Gateway also carries a case probably for carrying a sword (Plate: CXV-A).

### 8. DAGGER

So far as sculptural depiction of this weapon is concerned specimens are shown on Sancti panels like *Śyama jataka* scene, a goat rider, a hunter with two haunches suspended on a pole over his shoulder<sup>220</sup> and a man defending himself against the attack of a lion (Plate: XVIII-B). He is also holding a long shield.<sup>221</sup>

A dagger hilt was found from Ruper<sup>222</sup> during the course of excavation. It was made of ivory and was beautifully carved. While its lower and upper ends have a chevron pattern, the middle portion has a criss-cross design. The upper most portion is unfinished and perhaps it fitted in the dagger to serve as a handle.

A bone handle piece has been found from the excavations of Maheśwar and Navadatoli.<sup>223</sup> It is datable between c. 400 B.C.-100 B.C. It has decoration of grooves on bands in relief. It might have served as a handle for a dagger.

Only one complete dagger and one dagger blade come from Bhīr mound (Taxila) assignable to 3rd-2nd century B.C. These have been described<sup>224</sup> as follows:

1. double edged straight dagger. Tang broken at heel of blade. No cross guard. The blade is lozenge shaped in section with central ridge on both sides and of uniform width for a length of 8 inches, when it tapers abruptly to the point. Length of dagger 10.62 inches.<sup>225</sup>
2. double edged dagger blade<sup>226</sup> tapering gradually towards the point. Tang for attachment of grip. Length 9.6 inches.

Besides above examples iron daggers have been reported from following sites like

Cirand,<sup>227</sup> Campā,<sup>228</sup> Sonepur,<sup>229</sup> and Vaiśali.<sup>230</sup> From Ganwāria<sup>231</sup> dagger heads of iron have been found while from Eran<sup>232</sup> a bone dagger was excavated.

## D. Miscellaneous Weapons

### 1. TRIDENT

Only one specimen of a trident is shown in a panel at Sānci depicting the army of demons retreating in panic (Plate: CXVII-A). It was more or less a spear with three conical projections at the head instead of one attached to a long shaft. Therefore, the weapon was called *Trisūla* or trident.<sup>233</sup> A miniature copper trisula<sup>234</sup> from Mathura, belonging to Mauryan level is a rare find.

### 2. THUNDERBOLT

The traditional idea of Indra holding a thunderbolt or *Vajra*, has been represented at Sānci.<sup>235</sup> Wherever Indra is depicted, he is always shown with a *Vajra* as in the scenes depicting *Vessantara jātaka* and six heavens of sensuous pleasure.

It has been represented as a small *damarū* like object having three pointed prongs on each side and a small handle in the middle.<sup>236</sup>

Whether this was simply a hypothetical weapon associated with Indra or whether any actual weapon like this is not clear.

### 3. STICKS OR DAṆḌA

In a panel at Sānci while depicting *Vessantara jātaka*,<sup>237</sup> a man is shown with a stick. He has been shown beating two children. The stick is not straight. It has a bend.

In another scene of the same *jātaka*,<sup>238</sup> a prince is driving four horse-drawn chariot. He is holding the reins with his left hand and a long straight stick in his right hand evidently for beating the horse.

Kautilya also describes rod like weapons including that made of bamboo having pointed edge of iron.<sup>239</sup>

### 4. PESTLE (*MŪSALA*)

Pestle has never been represented at Sānci in the panels depicting military scenes. It has been shown only once as an arm of Mār's army. Probably it was made of an iron rod with sharp conical projection at each end and a small straight handle in the middle.<sup>240</sup>

An image of Sankarṣaṇa—now in Lucknow Museum is shown carrying his usual weapons *hala* and *mūsala*.<sup>241</sup> (Plate: CXVI-B).

### 5. BATTLE-AXE

We find a rare representation of the battle axe on the Western Gateway of Sānci. The panel depicts the scene of 'The war of the relics'. A footman, third from the chariot, is carrying a battle axe with both hands on his left shoulder. It appears to be quite similar to the felling axe depicted in the scene showing life of the ascetics.<sup>242</sup>

Kautilya also mentions *Paraśu*, *Kuthar* and some others as the varieties of axes.<sup>243</sup>

## E. Armour

### 1. SHIELD

The shield was a common defensive weapon. Four varieties of shields have been depicted in the panels of Sānci.

- (i) A large or small oblong with a rounded top. Their length were as much as to cover the bearer from head to knee. They had cross bands or other designs on outer side and appear to have a handle. This type of shields have been shown in the war scene on the Southern Gateway.<sup>244</sup>
- (ii) Triangular shaped with a rounded top. This type has been shown in a scene depicting an army.<sup>245</sup>
- (iii) Round basket like shield depicted in the scene of the fleeing army of demons.<sup>246</sup>
- (iv) Rectangular shaped with three projections at the top. This type has been shown in some decorative panels.<sup>247</sup>

First three types of shields were decorated. Generally they had horizontal and oblique cross bands, but sometimes they also had small circles or rows of circles and rarely with a crescent. Plain varieties of shields were also in use as is evident from Sanct representations<sup>248</sup> (Plate: XVIII-B).

The fourth variety was decorated at the cores and the three projections at the top were raised in the form of triratna.<sup>249</sup>

## 2. BREAST PLATE

A rare representation of breast-plate is shown in a Sanct panel depicting an army near a city gate. A footman, second from the city gate, is shown with his whole breast region covered with a breast plate. It has been decorated with three bands, a vertical one in the centre and two oblique ones starting from the upper corners and crossing each other in the centre.<sup>250</sup>

## 3. HELMET

On the Southern Gateway of Sanct some foot-soldiers have been shown wearing helmets on their heads. But the shapes of helmets are not very distinct.<sup>251</sup>

A terracotta amulet<sup>252</sup> showing a warrior is dressed in a tunic and is holding a dagger in his right hand. On his back is hanging a case probably for the dagger. He is also wearing a helmet on his head.

## 4. GLOVES

A solitary example of gloves is found on a relief at Sanct.<sup>253</sup> In the 'Śyama jātaaka' scene, the king of Varānast has been represented wearing gloves, that too twice. They appear to have a design of two crosses.

Kautilya<sup>254</sup> has also given ample account about the instruments used in war for self defence. He also mentions various iron equipments to cover various parts of body for protection.

## NOTES & REFERENCES

1. Cf. G. R. Sharma in *IAR* 1957-58, pp. 48-49 and *IAR* 1958-59.
2. R. C. Gaur, *op. cit.*, p. 255.
3. Cf. M. D. N. Sahi in *IAR* 1974-75, pp. 43-45 and *IAR* 1975-76, pp. 50-51.
4. Cf. B. K. Thapar in *IAR* 1974-75, p. 49.
5. K. K. Sinha, *op. cit.*, pp. 11 & 18-19.
6. Cf. Y. D. Sharma in *A.I.* no. 9, pp. 131-40.
7. A. K. Narain and T. N. Roy, *op. cit.*, pp. 10-11.
8. L. A. Waddell, *op. cit.*, pp. 19-22, also cf. B. K. Thapar in *IAR* 1970-71, p. 6.
9. Cf. D. R. Patil in *IAR* 1953-54, p. 9 and cf. Raghbir Singh in *IAR* 1961-62, pp. 7-8.
10. Cf. B. P. Sinha in *IAR* 1969-70, p. 2.

11. Cf. A. K. Narain in *IAR* 1976-77, p. 52.
12. A. K. Narain and T. N. Roy, *op. cit.*
13. Cf. A. S. Altekar in *IAR* 1958-59, p. 12 and B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 5-8.
14. Cf. Sita Ram Roy in *IAR* 1977-78, pp. 15-16.
15. Cf. Raghbir Singh in *IAR* 1962-63, p. 5 and cf. Sita Ram Roy in *IAR* 1972-73, p. 7.
16. Cf. M. D. Khare in *IAR* 1964-65, pp. 19-20 and *IAR* 1976-77, p. 33.
17. Cf. K. P. Nautiyal, *IAR* 1978-79, p. 74.
18. Cf. R. C. Agrawala in *IAR* 1970-71, pp. 29, 32.
19. Cf. S. S. Talwar in *IAR* 1969-70, p. 32.
20. Cf. N. R. Banerjee in *IAR* 1955-56, p. 19 and *IAR* 1956-57, pp. 20-27.
21. Cf. K. D. Bajpai in *IAR* 1975-76, p. 23.
22. Cf. Y. D. Sharma in *A.I.* no. 9, pp. 131-135.
23. Cf. K. G. Goswami, *IAR* 1956-57, p. 29 and 1959-60, p. 50 and 1961-62 pp. 62-63 and 1962-63, pp. 46-47 and 1963-64, p. 53 and 1965-66, p. 59.
24. Cf. Y. D. Sharma in *A.I.* no. 9, p. 155 and cf. Y. D. Sharma in A. Ghosh, *op. cit.*, pp. 78-79 and cf. K. G. Goswami, *Excavation at Bangarh*, p. 83 ff.
25. A. L. Basham, *op. cit.*, pp. 133-134.
26. J. W. Mc' Crindle, *op. cit.*, p. 65, frag. xxv; Strabo xvi 36, p. 702.
27. Cf. A. K. Narain in *IAR* 1976-77, p. 52.
28. Cf. M. D. Khare in *IAR* 1976-77, p. 33.
29. Cf. Sita Ram Roy in *IAR* 1977-78, pp. 15-16.
30. G. R. Sharma, *op. cit.*, pp. 38-39.
31. Strabo XV, i 35-36 cf. J. W. McCrindle, *op. cit.*, 67; cf. L. A. Waddell, *op. cit.*, pp. 19-22.
32. Cf. M. D. N. Sahi in *IAR* 1974-75, pp. 43-45 and *IAR* 1975-76, pp. 50-51.
33. Cf. N. R. Banerjee in *IAR* 1957-58, pp. 34-36.
34. Cf. A. S. Altekar and Sita Ram Roy in *IAR* 1958-59, p. 12.
35. L. A. Waddell, *op. cit.*, pp. 41-42; cf. A. Ghosh in *A.I.* No. 7, p. 66.
36. R. C. Gaur, *op. cit.*, p. 255.
37. Cf. Sita Ram Roy in *IAR* 1975-76, p. 8.
38. Cf. G. R. Sharma in *IAR* 1956-57, pp. 28-29 and *IAR* 1958-59, pp. 46-47 and *IAR* 1960-61, pp. 33-35.
39. Cf. Y. D. Sharma in *A.I.* No. 9, pp. 131-135.
40. Marshall and Foucher; *op. cit.*, pl. XV; cf. A. L. Srivastava, *op. cit.*, pp. 99-100.
41. *Ibid.*, text of pl. XV.
42. Mc' Crindle, *op. cit.*, pp. 225-226.
43. Marshall and Foucher, *op. cit.*, text from plate LXVI. A similar pin was found from Taxila belonging to 1st cent. A.D. See *ASR* 1926, p. 113, No. 9 and Pl. XXVI, 11.
44. 76.671 in the National Museum, New Delhi.
45. 50.18 in the State Museum, Lucknow.
46. No. 74.298 from Kausambi, Now in the National Museum, New Delhi.
47. K. Krishnamurty, *op. cit.*, p. 169.
48. A. Coomaraswamy, *op. cit.*, pl. XVII, fig. 61.
49. C. C. Das Gupta, *op. cit.*, p. 152.
50. Padmini Sen Gupta, *op. cit.*, p. 104.
51. For toy chariots in terracotta see Chapter on Economic Life describing modes of transport.
52. J. W. Mc' Crindle, *op. cit.*, Frag. XI, Strabo XV. 1. 20-p. 693.
53. Marshall and Foucher, *op. cit.*, pls. XV and LXI.
54. John Allan, *op. cit.*, p. 3.
55. See the Chapter on 'Art'.
56. 56.499 in the State Museum, Lucknow and 62.313 in the National Museum, New Delhi.
57. Cf. V. H. Jackson in *JBORS* vol. xiii, pt. II, June 1927, pp. 126-127.
58. 48.3/5 and 68.47 in the National Museum, New Delhi.
59. *Rigveda*, I. 8.2; *Satpath Brahmana*; XIII.5.4.16.
60. Marshall and Foucher, *op. cit.*, pl. XV, Bottom lintel. LXI-Top and Middle lintel. A. L. Srivastava, *op. cit.*, p. 101.
61. B. M. Barua, *op. cit.*, p. 50.
62. 74.3 in the National Museum, New Delhi.
63. Cf. Jackson, *JBORS* Vol. xiii, pt. II, (June, 1927), pp. 126-127.

64. B. P. Sinha and Sita Ram Roy, *op. cit.*, pp. 156-167.
65. J. W. Mc' Crindle, *op. cit.*, pp. 225-226.
66. R. Sham Sastry, *op. cit.*, p. 115.
67. Dilip Chakraverty, 'The beginning of Iron in India', in *Antiquity I* (1976), M. D. N. Sahi; (1979), 'Origin of iron metallurgy in India' (Unpublished).
68. R. C. Gaur, Comments on the paper of Dilip Chakravarty; 'Some issues of the Indian iron age', at the *International Conference on Recent Advances in Indian Archaeology*.
69. Cf. N. R. Banerjee, in *IAR* 1957-58, p. 36.
70. Marshall and Foucher, *op. cit.*, text from pl. 15 bottom lintel.
71. R. C. Gaur, *op. cit.*, pp. 382-383.
72. R. Sham Sastry, *op. cit.*, p. 114.
73. *Ibid.*, p. 113.
74. *Ibid.*, pp. 52-53.
75. K. Krishnamurty, *op. cit.*, pp. 176-177.
76. *Ibid.*
77. *Ibid.*
78. Marshall and Foucher, *op. cit.*, pl. XV-bottom lintel.
79. *Ibid.*
80. Krishnamurty, *op. cit.*, pp. 177-178.
81. R. Sham Sastry, *op. cit.*, p. 113.
82. J. W. Mc' Crindle, *op. cit.*, p. 162.
83. Marshall and Foucher, *op. cit.*, pl. XV-bottom lintel.
84. R. Sham Sastry, *op. cit.*, p. 113.
85. Cf. R. B. Narain, *IAR* 1965-66, p. 51.
86. Cf. R. C. Agrawala, *IAR* 1971-72, p. 42.
87. Cf. B. P. Sinha, *IAR* 1966-67, p. 6.
88. Cf. A. S. Altekar, *IAR* 1961-62, p. 4.
89. Cf. K. D. Bajpai, *IAR* 1972-73, p. 16.
90. Cf. N. R. Banerjee, *IAR* 1956-57, p. 27.
91. Cf. R. C. Singh, *IAR* 1976-77, p. 54.
92. Cf. B. K. Thapar, *IAR* 1975-76, p. 53.
93. Cf. B. B. Lal, *A.I.* nos. 10 & 11, p. 99.
94. Romila Thapar, *IAR* 1970-71, p. 41.
95. R. C. Gaur, *op. cit.*, pp. 424, 427.
96. Cf. M. D. N. Sahi, *IAR* 1974-75, pp. 43-45; *IAR* 1975-76, pp. 50-51.
97. R. C. Gaur, *op. cit.*, pp. 424, 427.
98. *Ibid.*
99. *Ibid.*
100. G. R. Sharma, *op. cit.*, pp. 53-55.
101. R. C. Gaur, *op. cit.*, pp. 424 & 427. To its blade is attached another corroded piece which appears part of the sheath in which the blade was placed for safety.
102. *Ibid.*
103. G. R. Sharma, *op. cit.*, pp. 53-55.
104. Cf. V. H. Jackson, *JBORS* Vol. XIII, Pt. II, (1927), p. 127.
105. R. C. Gaur, *op. cit.*, pp. 424, 427.
106. G. R. Sharma, *op. cit.*, pp. 55-56.
107. Sir J. Marshall, *Taxila* III, pl. 164, no. 71.
108. R. C. Gaur, *op. cit.*, p. 427.
109. Arrian, *Indica* XVI (Trans.) E. J. Chinnock, pp. 220-221.
110. Arrian, *Ibid.*, pp. 220-221.
111. Marshall and Foucher, *op. cit.*, pl. XV-bottom lintel.
112. J. Marshall, *op. cit.*, pl. IV, V, XXVI and XXVII Hunters also used bows and arrows, a javelin or a blow pipe with poison darts. See M. Edwardes, *op. cit.*, p. 57.
113. A. Cunningham, *op. cit.*, pl. xxxii.
114. K. Krishnamurty, *op. cit.*, p. 187.
115. R. Sham Sastry, *op. cit.*, p. 113.
116. *Ibid.*, p. 114.
117. No. 76.671 in the National Museum, New Delhi.



118. G. N. Pant, *Indian Archery*, pp. 72-73.
119. Mc'Crindle, *op. cit.*, p. 73.
120. A. Cunningham, *op. cit.*, pl. xxxii; cf. Marshall, *op. cit.*, pls. IV, V. XXVI, XXVII, cf. G. N. Pant, *Indian Arms and Armour I*, p. 107.
121. R. Sham Sastry, *op. cit.*, Chapter 18.
122. R. C. Gaur, *op. cit.*, pp. 412, 415 & 425.
123. G. N. Pant, *op. cit.*, p. 109.
124. R. Sham Sastry, *op. cit.*, p. 114.
125. G. N. Pant, *op. cit.*, (1978), p. 83, cf. S. P. Gupta, Arrowheads—its technology and history, *JBORS* Vol. XLVII, pt. I-V (Jan-Dec. 1961), pp. 134-136.
126. G. N. Pant, *op. cit.*, p. 83; cf. Gupta, *op. cit.*, p. 134.
127. Pant, *op. cit.*, p. 84; cf. Gupta, *op. cit.*, p. 135.
128. Cf. G. R. Sharma, *op. cit.*, pp. 47-50.
129. Cf. R. C. Singh in *IAR* 1976-77, p. 54.
130. Cf. R. C. Gaur, *op. cit.*, pp. 412, 415 & 425.
131. Cf. B. B. Lal, *A.I. nos.* 10 & 11.
132. Cf. Romila Thapar, *IAR* 1970-71, p. 41.
133. Cf. K. K. Sinha, *op. cit.*, pp. 66-71.
134. Cf. V. K. Misra, *IAR* 1955-56, p. 22.
135. Cf. Raghbir Singh, *IAR* 1962-63, p. 5.
136. Cf. B. P. Sinha, *IAR* 1972-73, pp. 6, 7; *IAR* 1974-75, p. 8.
137. Cf. A. K. Narain, *IAR* 1961-62, p. 58.
138. Cf. R. B. Narain, *IAR* 1965-66, p. 51.
139. Cf. K. M. Srivastava, *IAR* 1974-75, pp. 40-41; *IAR* 1975-76, p. 50.
140. Cf. B. P. Sinha, *IAR* 1968-69, p. 6; *IAR* 1971-72, p. 6.
141. Cf. A. S. Altekar, *IAR* 1961-62, p. 4.
142. Cf. K. D. Bajpai, *IAR* 1964-65, pp. 17-18.
143. Cf. H. D. Sankalia, *IAR* 1961-62, pp. 45, 50.
144. R. C. Agrawala, *IAR* 1963-64, p. 29; *IAR* 1971-72, p. 42.
145. Cf. Vijay Kumar, *IAR* 1972-73, p. 30.
146. Cf. N. R. Banerjee, *IAR* 1956-57, p. 27, *IAR* 1957-58, p. 36.
147. Cf. K. D. Bajpai, *IAR* 1972-73, p. 16.
148. Cf. K. P. Nautiyal, *IAR* 1978-79, p. 75.
149. Cf. R. C. Singh, *IAR* 1978-79, p. 74.
150. R. C. Gaur, *op. cit.*, p. 424.
151. N. R. Banerjee, *IAR* 1956-57, p. 27; *IAR* 1957-58, p. 36.
152. G. R. Sharma, *op. cit.*, pp. 47-50.
153. N. R. Banerjee, *IAR* 1956-57, p. 27.
154. R. C. Gaur, *op. cit.*, p. 424.
155. *Ibid.*, p. 424.
156. G. R. Sharma, *op. cit.*, pp. 47-50.
157. R. C. Gaur, *op. cit.*, p. 424.
158. G. R. Sharma, *op. cit.*, pp. 50-52.
159. *Ibid.*, pp. 53-55.
160. R. C. Gaur, *op. cit.*, p. 424.
161. Cf. G. R. Sharma, *op. cit.*, pp. 47-50.
162. Cf. R. C. Singh, *IAR* 1975-76, p. 52.
163. Cf. R. C. Gaur, *op. cit.*, pp. 412, 415.
164. B. B. Lal, *A.I. Nos.* 10 & 11, p. 105.
165. Cf. R. C. Singh, *IAR* 1978-79, p. 74.
166. Cf. Sinha, *op. cit.*, pp. 69-71.
167. Cf. V. K. Misra, *IAR* 1955-56, p. 22.
168. Cf. Raghbir Singh, *IAR* 1962-63, p. 5.
169. Cf. B. P. Sinha, *IAR* 1972-73, pp. 6 and 7 and *IAR* 1974-75, p. 8.
170. Cf. A. K. Narain and T. N. Roy, *op. cit.*, p. 28.
171. Cf. B. P. Sinha, *IAR* 1968-69, p. 6 and *IAR* 1971-72, p. 6.
172. Cf. A. S. Altekar, *IAR* 1959-60, p. 14 and *IAR* 1970-71, p. 6.
173. Cf. K. D. Bajpai, *IAR* 1964-65, pp. 17-18.

174. Cf. N. R. Banerjee, *IAR* 1956-57, p. 27.
175. Cf. Marshall, *Taxila* II, pp. 664-665.
176. Cf. K. D. Bajpai, *IAR* 1972-73, p. 16.
177. G. R. Sharma, *op. cit.*, pp. 47-50.
178. R. C. Gaur, *op. cit.*, pp. 412, 415.
179. Cf. A. S. Altekar, *IAR* 1959-60, p. 14.
180. R. C. Gaur, *op. cit.*, pp. 412, 415.
181. *Ibid.*
182. G. R. Sharma, *op. cit.*, pp. 47-50.
183. R. C. Gaur, *op. cit.*, pp. 412-415.
184. *Ibid.*, cf. G. R. Sharma, *IAR* 1957-58, p. 48.
185. Marshall, *op. cit.*, pp. 664-665.
186. K. K. Sinha, *op. cit.*, pp. 69-70.
187. R. C. Gaur, *op. cit.*, pp. 412, 415.
188. V. H. Jackson, *J.B.O.R.S.* Vol. XIII, Pt. II (June, 1927), p. 127.
189. Cf. B. K. Thapar, *IAR* 1975-76, p. 53.
190. Cf. Romila Thapar, *IAR* 1970-71, p. 41.
191. Cf. K. N. Dixit, *IAR* 1978-79, p. 61.
192. Cf. B. B. Lal, *IAR* 1978-79, p. 62.
193. A. K. Narain and T. N. Roy, *op. cit.*, pp. 38-41.
194. Cf. T. N. Roy, *IAR* 1971-72, p. 49.
195. Cf. A. K. Narain, *IAR* 1967-68, p. 49.
196. Cf. B. P. Sinha, *IAR* 1965-66, p. 11.
197. Cf. V. K. Misra, *IAR* 1955-56, p. 22.
198. Cf. Raghbir Singh, *IAR* 1974-75, p. 11.
199. Cf. B. P. Sinha, *IAR* 1966-67, p. 6.
200. Cf. B. P. Sinha, *IAR* 1969-70, p. 2; 1970-71, p. 5; 1971-72, p. 5; 1972-73; pp. 6, 7.
201. Cf. A. K. Narain, *IAR* 1969-70, p. 40.
202. Cf. A. K. Narain and T. N. Roy, *op. cit.*, p. 28.
203. Cf. R. B. Narain, *IAR* 1964-65, p. 43.
204. Cf. B. P. Sinha, *IAR* 1971-72, p. 6.
205. Cf. A. S. Altekar, *IAR* 1960-61, p. 5 and B. P. Sinha, *IAR* 1970-71, pp. 5-6.
206. Cf. Sita Ram Roy, *IAR* 1972-73, p. 7.
207. Cf. V. S. Vakankar, *IAR* 1967-68, p. 25.
208. Cf. B. B. Lal, *IAR* 1969-70, p. 4; *IAR* 1970-71, pp. 8, 10.
209. Cf. U. V. Singh, *IAR* 1975-76, pp. 18.
210. Cf. B. Ch. Chhabra, *IAR* 1965-66, p. 37.
211. Cf. M. G. Dixit, *IAR* 1965-66, p. 22.
212. R. C. Gaur, *op. cit.*, p. 427.
213. K. Krishnamurty, *op. cit.*, p. 188.
214. Mc'Crindle, *op. cit.*, p. 31.
215. Jagdish Chandra Jain, *Life in Ancient India as described in Jain Canons*, pp. 80-81.
216. Sham Sastry, *op. cit.*, p. 114.
217. V. A. Smith, *A history of fine art in India and Ceylon*, pl. XVIa; cf. G. N. Pant, *Indian Arms and Armour* Vol. II, p. 10.
218. L. Bachhofer, *op. cit.*, pl. XXII.
219. G. N. Pant, *op. cit.*, p. 20.
220. Marshall and Foucher, *op. cit.*, pl. xxv. 1.
221. B. Rowland, *op. cit.*, p. 86.
222. G. N. Pant, *op. cit.*, p. 139.
223. H. D. Sankalia, *et al.*, *The Excavations at Maheshwar and Navadatoli (1952-53)* Poona, fig. 114, no. 4.
224. Marshall, *op. cit.*, pp. 544-45.
225. *Ibid.*, pp. 545-46, plate 164, no. 59.
226. *Ibid.*
227. Cf. B. P. Sinha, *IAR* 1971-72, p. 6.
228. Cf. B. P. Sinha, *IAR* 1974-75, p. 8.
229. Cf. A. S. Altekar, *IAR* 1961-62, p. 4.
230. Cf. Sita Ram Roy, *IAR* 1961-62, p. 5.

231. Cf. K. M. Srivastava, *IAR* 1975-76, p. 50.
232. Cf. K. D. Bajpai, *IAR* 1964-65, pp. 17-18.
233. K. Krishnamurty, *op. cit.*, p. 181.
234. R. C. Sharma, *op. cit.*, p. 88.
235. Marshall and Foucher, *op. cit.*, plate xxix-3(c); XLIX-4th and 5th storeys.
236. *Ibid.*, 29.3(c).
237. *Ibid.*, 29.3(b).
238. *Ibid.*, 23a.
239. R. Sham Sastry, *op. cit.*, p. 113.
240. Marshall and Foucher, plate LXI-3.
241. C. Sivaram Murti, *op. cit.*, p. 21.
242. A. L. Srivastava, *op. cit.*, p. 104.
243. R. Sham Sastry, *op. cit.*, p. 114.
244. K. Krishnamurty, *op. cit.*, cf. Marshall and Foucher, *op. cit.*, 15.3.
245. K. Krishnamurty, *op. cit.*, p. 192.
246. A. L. Srivastava, *op. cit.*, p. 105.
247. *Ibid.*, p. 105.
248. K. Krishnamurty, *op. cit.*, p. 192.
249. A. L. Srivastava, *op. cit.*, p. 105.
250. *Ibid.*, p. 106.
251. *Ibid.*
252. 50.18 in the State Museum, Lucknow.
253. A. L. Srivastava, *op. cit.*, p. 106.
254. R. Sham Sastry, *op. cit.*, pp. 114-115.

## CHAPTER VIII

# CONCLUSION

(Summary of the investigation)

The foregoing chapters provide a graphic account of the material life from circa 3rd cent. B.C. to 1st cent. B.C. which is culturally the later half of the well known archaeological NBPW phase. While the former half of it witnessed the rise of sixteen Mahājanapadas and the Magadhan power, the latter half witnessed the rise of the first real imperial power of the Mauryans which brought almost whole India under one administrative unit. During this NBPW phase subsequently this power declined which gave rise and decay to many other small powers.

Literary evidences as well as numerous sculptures and terracottas attest that during this period people were generally prosperous. The growth of cloth industry is also evident from the literature as well as from sculptures, cloth printing blocks and a large number of associated items found during the course of various excavations. During the Maurya times people mostly wore unsewn clothes. Only men of rank at some places have been shown wearing sewn garments that too during the last stage of the NBPW phase—the Śunga period. During those days male and female both were found wearing ornaments to decorate themselves. They have been depicted wearing necklaces, earornaments, bangles, decorated turbans and sometimes *kirtas*. From innumerable finds of different varieties it appears that while the poor people decorated themselves with ornaments of cheaper material like those made of terracotta, horn, glass or ordinary stone, the rich were using ornaments of gold, silver and semiprecious stones. The middle class people might also be using items made of iron, copper, ivory and shell. Thus the great public demand of such items engaged a large number of people in ornament making profession to make objects of gold, silver, copper, iron, glass, semiprecious as well as ordinary stones and terracotta. The aesthetic and decorative sense had developed to a great extent and people paid much attention to their hair styles and the use of cosmetics and items of toilet.

They also paid attention to their house comforts. There were many items of daily use though they were simple and utilitarian. The furniture generally depicted in art, are of simple type including cane furniture. The use of earthen lamps, palm leaf fans and earthen pots and pans show that they preferred a simple style of living. Only a few examples of copper and iron pots are available. They could have been used occasionally on particular occasions or for some special use. With their material prosperity, they had a liking for various types of recreations. In some scenes depicted on the sculptures, couples have been shown enjoying music and dance, probably a favourite pastime. At some places picnic scenes and acrobats have also been shown. Games of chess, hunting and riding were other means of entertainment. It appears that wine taking was quite popular at least in the upper class. At some places even ladies are shown drinking. Women have also been shown participating in hunting and picnic.

with their male companions. It appears that they also had freedom of selecting partners for marriage by mutual consent. Representation of the elopement of Vāsavadattā with Udayan on an elephant—an old theme—and similar other scenes during this period seem to attest this fact.

During this period, brisk trade and commerce—both external and internal—brought prosperity to the country. Inter-regional contacts not only developed commerce and trade centres but also gave impetus to various arts and crafts. Now the building activities were started on large scale including the defence. The early punch marked coinage system from its initial stage emerged into strong system of currency, which helped to replace the barter system into free marketing. Finds of some weights during excavations from various sites also support this fact.

Alongwith the material prosperity due attention was paid to proper education. Inscriptions on Aśokan pillars and sculptures of the Śunga period alongwith a scene on Bharhut railing, where a Vedic teacher is shown with his pupils giving instructions in Vedic recitation, attest this fact. In this context attention may be drawn to a beautiful terracotta specimen displayed in National Museum, New Delhi, depicting a boy learning alphabets on a handy wooden board—a tradition which still prevails in India. This literary awakening led the people, atleast those in business or in power to possess their personal seals. Popularity of the art of writing is further proved by the finds of the inscribed bricks from *Morā* and *Ganesra* sites in Mathurā and *Tissamahārāma* in Ceylon.

For a stable government as well as for the upkeep of the urban life, a strong agricultural base was needed. Therefore, the latter was given due protection even during wartime. The numerous iron agricultural implements, as found at Atrajikhera and Jakhera, testify the fact. Now spud, hoe, ploughshare and digger (*Khurpi*) emerge on the scene with the sickles. Wells were now dug to irrigate the fields. The excavations have also revealed the barns and granaries to store the surplus. The period of our study is also noteworthy for the rise of various craftsmanship. The iron furnaces and blacksmith's kit speak about the development of smelting forging of iron and around development of iron industry. The chopping knife and chopper, scrapper and chisel, axe and tongs do speak of their use by craftsmen. The prosperity of craftsmen is evident from an inscription on a Sanchi gateway, which was executed by ivory carvers of Vidisa.

Flourishing trade in and outside the country necessitated quick transport system. Various modes of transport, including bullockcarts, chariots, horses, elephants, camels, boats and even ships, have been found depicted in sculptures as well as in terracotta. A peculiar find of a wooden wheel from the excavation of Bulandibagh goes in favour of the above fact.

The monolithic Aśokan pillars are the wonders of that age and their fixation in different parts of the country do testify the fact that the people of that time had evolved the means to transport such heavy material from one place to another, which speaks about their high and efficient skill. The capital animals of these pillars are superb in their execution and are unique in Indian art specimen. In the realm of religion and philosophy, the folk beliefs have their own place in common life. The statues of the Yakṣhas and Yakṣiṇīs found at various places were worshipped as super human powers. Generally their images were installed at the outskirts of the villages as the protecting duties. In most of villages in northern India they are still worshipped as *Grāmadevatās*. Due place has also been given to them on the railings and gateways of stūpas like Bharhut and Sanchi. This indirectly reflects to the then prevailing belief in supernatural powers in the society. Besides Yakṣhas, the *devatās* (Gods), *Nāgas* and *Apsarās*

have also been depicted in the sculptures of Bharhut and Sanchi. The presentation of these deities does indicate that folk beliefs had very deep root in the society and, therefore, it attracted the attention of all including the artists and those who built the great stupas and other monuments and thereby were indirectly incorporated in Buddhism.

Even the Hindu *Sanskaras* were not omitted in the Buddhist art. *Garbhadhan*, the first *sanskara* of Hindus is represented in a very imaginative way in a Bharhut relief. Here Maya Devi's dream of the descent of the Bodhisattava in the form of a white elephant entering her womb stands as an example.

The terracotta figurines belonging to Mauryan period have been found from many ancient sites of India. Several mother goddess figurines of the period, though showed improvement on the preceding period, they were to meet the worship requirement. No part of the body was separately made. Eyes, nose, ears, arms and leg ere modelled. However, a new turn came during the Śunga period when artists started making figurines completely with the help of moulds. The early terracotta mother goddesses were replaces by a variety of subjects Thus portraying a true picture of the contemporary society. In the beginning these figurines were plain but subsequently artists started decorating them with different types of motifs like Swastika, Cakra, flower etc. In a few cases these were decorated with beautiful paintings in one or more colours.

The Western Asiatic influence (Hellenistic) of Bactria never succeeded in changing the main characteristics of Indian art. It absorbed some of their ideas but remained typically Indian. If we compare terracotta figurines of the Śunga period with the sculptures of Bharhut, Sanchi and Bodhgaya, we find some points of similarity between them, showing that the artists of sculptures and terracotta followed almost the same formula.

Besides stone and clay, bone, ivory, copper and iron were also used for producing decorative items, though on a small scale.

The process of rapid urbanization gave birth to new cities and towns. The building engineering touched a new height during this period. Now the houses of mud and burnt bricks became increasingly common replacing those of wattle and daub, though locally available materials were also used side by side, such as stone slabs at Malhar, undressed stones at Ujjain and Besnagar. Brick making became now an important industry. The find of plumb-bob during this period speaks about the accuracy for building the structures. Now clamps, staple and bolts were used. Sanitary system was highly developed. Soakage wells and manholes prove this. Drains have been found in abundance. Some of them were much sophisticated—having strainer like device to allow only water to run through them.

According to some scholars the Sanchi gateways were on the pattern of the wooden structures already prevalent then. If it is true, we have to assume that art and architecture of such high degree had its roots in remote past much earlier than the Mauryan period, though owing to their perishable nature the examples of wooden structures do not exist now.

Buddhist monasteries and religious centres sprang one after the other. While the pillars were erected at places associated with the events in Buddha's life or marking pilgrim routes to holy places, the stupas were erected over the relics of Buddha or other Buddhist saints. Besides monasteries and Viharas, some cave-resorts for the monks were also found. Besides the Buddhist buildings, remains of a few Hindu temples have also been found during the excavations. These were having *pradikṣhaṇa patha* and *garbha-grha*. (?)

Out of three main religions viz. Buddhism, Brahmanism and Jainism, the first was flourishing under the royal patronage during Mauryan period. In one scene on northern gateway

of Sanci, Indra and Brahma are shown worshipping Buddha. This has been shown probably to establish the superiority of Buddhism over the Brahmanism. In two other scenes on the same gateway and on other gates also, Buddha is depicted showing miracles—walking in air and producing fire and water from his mouth. In still other scenes he is shown worshipped by animals and human beings. All these panels probably try to establish that Buddha was the supermost and all the creatures of the three world worshipped him. All these evidences prove that the Buddhism was a dominant or atleast a popular religion during the Mauryan period.

We also find representations of Brahmanic deities as well as Jain Tirthankaras both in stone and terracotta. It appears that during the Śunga period, the Brahmanism was in dominating position. Ritualistic pots and fire receptacles found during this period also show the increasing popularity of the Brahmanism. However, the Buddhism was losing its popularity after the downfall of the Mauryas.

It appears that the people were religious by nature but they took equal interest as far as protection of the country was concerned. All big cities have been found well fortified having moats and ditches around them.

The kings maintained a four fold army, all well-equipped with arms. Though the main weapon of war appears to be the bow and arrow, other weapons have also been found alongwith the arrow and spearheads during the excavations. Not only kings and royal persons but even ordinary people were fond of hunting. Boxing was also a means of recreation. These too were the sources of recreation as well as part of war. Though no actual specimen has been found, some depictions in art prove that men of high rank used breast plate and helmets for personal protection. Perhaps shield was also used by many soldiers.

## APPENDICES

## CHART I

## BEADS OF DIFFERENT MATERIALS FOUND DURING EXCAVATIONS AT VARIOUS SITES

Name of site	Terreous	Bone and Ivory	Glass and shell	Stone	Semi-precious stones	Copper	Iron	Silver	Gold
1	2	3	4	5	6	7	8	9	10
Atranjikeri	Yes	Yes	Yes	Yes	Yes	Yes	—	—	—
Ahichchhaura	Yes	—	Yes	—	Yes	Yes	—	—	—
Allahapur	Yes	—	—	—	—	—	—	—	—
Auahi	Yes	—	—	—	—	—	—	—	—
Ayodhya	Yes	—	Yes	—	Yes	Yes	—	—	—
Bateswara	Yes	—	—	—	Yes	Yes	—	—	—
Balirajgarh	Yes	—	—	—	Yes	—	—	—	—
Bernagar	Yes	—	—	Yes	—	Yes	—	—	—
Chimand	Yes	—	—	Yes	Yes	—	—	—	—
Champe	Yes	Yes	Yes	Yes	Yes	—	—	—	—
Eran	Yes	—	Yes	Yes	Yes	—	Yes	—	—
Hulas	Yes	—	Yes	—	Yes	—	—	—	—
Hulaskheri	Yes	Yes	—	—	Yes	—	—	—	—
Daulatpur	Yes	—	Yes	—	Yes	—	—	—	—
Jodhpura	Yes	—	—	Yes	—	—	—	—	—
Jajmau	Yes	—	Yes	—	Yes	—	—	—	—
Chandahadith	Yes	Yes	—	—	Yes	—	—	—	—
Malhar	Yes	—	—	—	Yes	—	—	—	—
Masson	Yes	—	—	—	—	—	—	—	—
Mahurā	Yes	Yes	Yes	—	Yes	—	—	—	—
Hastinapur	Yes	—	—	—	Yes	—	—	—	—
Prahladpur	Yes	Yes	Yes	Yes	Yes	—	—	—	—
Sonepur	Yes	—	Yes	Yes	Yes	—	—	—	—
Rajghat	Yes	Yes	Yes	Yes	Yes	Yes	—	—	—
Śrāvastī	Yes	Yes	Yes	—	Yes	Yes	—	—	—



1	2	3	4	5	6	7	8	9	10
Sarai-mohāna	Yes	—	—	—	—	—	—	—	—
Sugh	Yes	—	—	Yes	Yes	Yes	—	—	—
Sohagaura	Yes	—	—	—	Yes	—	—	—	—
Rājā Karana Kā Qilā	Yes	—	—	—	Yes	—	—	—	—
Rājgir	Yes	—	Yes	Yes	—	—	—	—	—
Rānthāt	—	—	—	Yes	—	—	—	—	—
Piprahwa & Ganwāriā	Yes	—	Yes	—	Yes	—	—	—	—
Ornup	Yes	—	Yes	Yes	Yes	Yes	—	—	—
Noh	Yes	Yes	Yes	Yes	Yes	—	—	—	—
Vaisāl	Yes	—	—	Yes	Yes	—	—	—	—
Ujjain	Yes	Yes	Yes	—	Yes	—	—	—	Yes
Turnain	Yes	—	Yes	—	Yes	—	—	—	—
Buxar	—	—	—	—	Yes	—	—	—	—
Kayatha	—	—	—	—	Yes	—	—	—	—
Katragarh	—	—	—	—	Yes	—	—	—	—
Pātalipura	—	—	—	—	Yes	—	—	—	—
Taxilā	—	—	—	—	Yes	—	—	Yes	Yes

CHART II  
ROAD WIDTHS FOR VARIOUS PURPOSES

---

1.	Chariot routes,	
2.	routes leading to ports,	
3.	roads leading to the capitals of States,	four dandas or twenty-four feet wide
4.	roads leading to neighbouring states,	
5.	roads leading to grazing grounds	
6.	Roads leading to military camps	
7.	roads leading to cemeteries	Eight dandas or forty-eight feet wide
8.	roads leading to villages	
9.	Roads leading to dykes	four dandas or twenty four feet wide
10.	roads leading to forests	
11.	Roads leading to reserve forests for elephants	twelve feet wide
12.	Animal tracks	Three feet wide

---

R. P. Kangle (Ed.) *The Kautilya Arthashastra* pt I (Bombay, 1960) II 4, 5.

CHART III  
COINAGE DURING MAURYA-ŚUNGA PERIOD FOUND AT VARIOUS EXCAVATED SITES

Sl. No.	Name of Site	Period	Type of Coin	Remark	Reference
1.	Atranjikhērā	C. 350-50 B.C.	Silver and copper punch marked coins  Inscribed and uninscribed cast copper coins	Symbols on two punch marked coins are Sun, six armed symbol, peacock on hill and steel beard.  Uninscribed copper coins had symbols like elephant, standard, swastika, Taurine, Tree within railing, hollow cross, crescent on hill.	R. C. Gaur; Excavations at Atranjikhēra (Delhi, 1983) p. 448.
2.	Ayodhyā	C. 2nd B.C.	Inscribed	Among inscribed coins are one lead coin of Sujestha and one copper coin of Hagansa.	Two Ayodhyā coins and one coin of Mūladeva. cf. A. K. Naram; IAR 69-70, p. 40; IAR 1976-77, p. 53.
3.	Besnagar	Maurya	Punch marked and inscribed copper coins		Small circular coins probably of Malava "Gaṇarājya". cf. M. D. Khare; IAR 1963-64, pp. 16-17, IAR 1975-76, p. 31.
4.	Bairat	Maurya	Punch marked		Indo Greek Coins cf. Y. D. Sharma; A.I. No. 9, p. 153.
5.	Batswara	Maurya-Śunga	Copper coins		cf. J. S. Nigam; IAR 1975-76, p. 43.
6.	Bhūlā	Maurya	Punchmarked and uninscribed cast copper coins		cf. Y. D. Sharma; A.I. No. 9, p. 146.
7.	Bairājgarh	C. 200B.C.-A.D. 200	Cast copper coins		cf. Sita Ram Roy; IAR 1972-73, p. 7.
8.	Cirānd	Maurya, Śunga	Punchmarked and cast copper coins		cf. B. P. Sinha; IAR 1964-65, p. 7; IAR 1972-73, p. 8.

Sl. No.	Name of Site	Period	Type of Coin	Remark	Reference
9.	Chandpā	Maurya Śunga	Punchmarked copper coins with silver coating and cast copper coins	—	cf. B. P. Sinha; IAR 1969-70, p. 2.
10.	Dangwada	Maurya	Punch marked	—	cf. V. S. Wakankar; IAR 1978-79; pp. 70-71.
11.	Eran	Maurya Śunga	Early Punch marked coins from early and late levels	—	cf. K. D. Bajpai; IAR 1962-63, p. 12; IAR 1963-64, p. 16.
12.	Hulaskhera	C.200 B.C.-A.D. 200	Karapapa coins	—	cf. R. C. Singh; IAR 1978-79, p. 74.
13.	Jājmau	Maurya	Punch marked coins	—	cf. R. C. Singh; IAR 1975-76, p. 52.
14.	Jodhpura	Śunga-Kuṣan	Uninscribed cast copper coins Copper coin	—	cf. Vijay Kumar; IAR 1972-73, p. 30.
15.	Kayatha	Maurya	Inscribed cast copper coins	Swāstika on one side and chakra on human figure on the other side.	cf. V. S. Wakankar; IAR 1964-65, p. 19.
16.	Katragarh	Śunga	Uninscribed cast copper coins	—	cf. Sita Ram Roy; IAR 1975-76, p. 8.
17.	Kausāmbi	C.600 B.C. to beginning of Christian era	Silver and copper punch-marked coins; uninscribed and inscribed cast copper coins.	Inscribed cast copper coins are Mitra coins (22). Both silver and copper punch marked coins bear symbols on both sides. Cast coins are circular, irregular circular, square, rectangular and irregular rectangular in shape/	G. R. Sharma; Excavations at Kausāmbi (Allahabad, 1960) pp. 80-85, pl. 48-49.

Sl. No.	Name of Site	Period	Type of Coin	Remark	Reference
18.	Mathurā	Maurya Śunga	Copper punchmarked Uninscribed and inscribed cast copper coins.	Copper punchmarked coins are thin and squarish. Uninscribed cast copper coins are rectangular with symbols on both sides. Inscribed coins are mitra coins of Surya mitra, Brahma mitra & Vishnu mitra.	cf. H. Haentel; IAR 1966-67, p. 42; IAR 1972-73, p. 35. cf. B. K. Thapar; IAR 1974-75, p. 49. cf. M.-C. Joshi; IAR 1976-77, p. 54.
19	Noh	Early 6th to 3rd Cent. B.C. Early 2nd cent. B.C.-A.D. 200	Uninscribed & inscribed cast copper coins Cast coins	Coins of Mitra rulers of Mathura	cf. R. C. Agrawala; IAR 1964-65, p. 35; IAR 1965-66, p. 38.
20.	Purānā Qilā	Maurya	Uninscribed cast copper coins	—	cf. B. B. Lal; IAR 1969-70, p. 4.
21.	Prahāḍpur	C.500 B.C.-200 B.C.	Copper punchmarked coins	Rectangular; Symbol only on obverse	A. K. Narain & T. N. Roy; Excavations at Prahāḍpur (Varanasi, 1968), p. 62.
22.	Rājghā	C. 400-200 B.C.; 2nd-1st Cent. B.C.	Uninscribed cast copper coins	—	A. K. Narain & T. N. Roy; Excavations at Rājghat (Varanasi, 1977), pp. 26-27.
23.	Sugh	C. 500-100 B.C.	Silver punchmarked Indogreek coins and inscribed and uninscribed cast copper coins	Inscription in Maurya Script.	cf. B. Ch. Chhabra; IAR 1965-66, p. 36.
24.	Śrāvastu	Mid 3rd-mid 1st cent. B.C.	All copper Punch marked, uninscribed and inscribed cast coins	Punchmarked coins are rectan- gular, symbols blurred, 2nd B.C. Uninscribed cast coins of 3rd cent. B.C. Inscribed Ayodhya, Panchala and Mitra coins	K. K. Sinha; Excavations at Srāvastu (Varanasi, 1967), pp. 73-75.
25.	Sonepur	Maurya Sunga	Silver punch marked and cast copper coins	—	cf. A. S. Attekar; IAR 1959-60, p. 14; IAR 1970-71, p. 6.

Sl. No.	Name of Site	Period	Type of Coin	Remark	Reference
26.	Rājgir	C. 3rd-2nd B.C.	Uninscribed cast copper coins	Rectangular	cf. V. K. Misra; IAR 1974-75, pp. 10 & 11.
27.	Ruper	C. 600-200 B.C.	Punch marked and uninscribed cast copper coins	Indogreek, Mathura and Taxila coins in fair number	cf. Y. D. Sharma; IAR 1953-54, pp. 6-7; cf. A.I. No. 9, pp. 123-6.
28.	Śringverpur	Maurya-Śuṅga	Punchmarked and uninscribed cast copper coins	—	cf. B. B. Lal; IAR 1977-78, p. 56.
29.	Sohagaura	Maurya-Śuṅga	Punch marked and cast coins	—	cf. S. N. Chaturvedi; IAR 1974-75.
30.	Triputi	C. 200 B.C.	Copper punch marked and inscribed cast copper coins	Punchmarked coins with moon on hill symbol; Inscribed coins with legend - in Asokan brahmi belonging to Triputi Janapada.	cf. K. D. Bajpai; IAR 1966-67, p. 18; IAR 1968-69, p. 12.
31.	Vaiśālī	Maurya-Śuṅga	Punchmarked rectangular coins Cast copper rectangular coins	Cast coins five times more in number than punch marked. Punch marked were more in value than cast coins. Cast coins were issued by many local dynasties even in post-Mauryan period.	B. P. Sinha & Sita Ram Roy; Vaisali Excavations (Pauna, 1969) p. 132.
32.	Masaon	Maurya, Śuṅga	Copper punchmarked coins	—	cf. R. B. Narain, IAR 1965-66, p. 51; IAR 1967-68, p. 47; IAR 1970-71, p. 39.
33.	Malhar	C. 400 B.C.-200 B.C.	Copper punchmarked square coins	—	cf. K. D. Bajpai; IAR 1974-75, pp. 21-22.
34.	Piprahāwā	C. 600 B.C. - beginning of Christian era.	Unique silver punchmarked coins	—	cf. K. M. Srivastava; IAR 1974-75; pp. 40-41.
35.	Pātaliputra (Kumrahar)	Śuṅga	Punchmarked coins	—	IAR 1953-54, p. 10.

Sl. No.	Name of Site	Period	Type of Coin	Remark	Reference
36.	Hastināpur	Maurya-Śunga	Copper and silver punchmarked and unscripted cast copper coins	Some coins of Mathura rulers	B. B. Lal; A.I. nos. 10 & 11.
37.	Taxilā	Maurya	Punch marked coins and silver & copper bent bar coins.	Bent Bar coins consist of thickish silver bars ranging from about 1.2 inches to about 1.7 inches in length and averaging about .4 mm. in width. They are all bent and curved. The curvature is due to their having been struck while hot on a wooden anvil. Symbols impressed with dies.	cf. G. M. Young: A.I. No. 1, pp. 27-36. L. A. Waddell, Excavation at Pataliputa (Delhi, 1975), pp. 39-40. cf. R. B. Narain, IAR 1970-71, p. 39.

Note: Among some old copper and bronze coins found on Chinese pattern with a hole in its centre. The Maurya capital, Pataliputra shows a testimony to the strong western influence in very early times.

Besides coins cauries appear to be a popular medium of exchange as they have been found in large numbers from all excavated sites. From Masaoon only 3000 cauries were found in a pot belonging to Maurya period.

CHART IV

SEALS AND SEALING OF MAURYA-SUNGA PERIOD FOUND AT EXCAVATED SITES

Sl. No.	Name of Site	Period	Material	Remark	Reference
1.	Atranjikhērā	C. 350-50 B.C.	2 Terracotta, 1 Bone 1 Potsherd with a sealmark	Legend in Mauryan Brahmi, Terracotta sealing almost squarish in shape; has a perforated knob decorated by notches. A swastika symbol on the 2nd terracotta sealing. The upper part of bone sealing decorated with grooved parallel lines. The seal mark on pot-herd bears impression of a taurine (?) a rectangular design, a fish and a standard.	R. C. Gaur, Excavation at Atranjikhēra (Delhi, 1983), p. 452.
2.	Ahar	Maurya-Sunga	Terracotta	Legend in Brahmi	cf. H. D. Sankalia; IAR 1961-62, pp. 45, 50.
3.	Ayodhyā	C. 2nd. B.C.	6 Terracotta	Belong to king Vasudeva	cf. A. K. Narain; IAR 1976-77, p. 53.
4.	Allāhapur	Late Maurya	Terracotta	Late Brahmi letters	cf. Romila Thapar; IAR 1970-71, p. 41.
5.	Besnagar	Sunga	Stone	Writing in Brahmi character of Sunga period	cf. M. D. Khare; IAR 1963-64, pp. 16-17.
6.	Bateśwara	Maurya-Sunga	Terracotta	—	cf. J. S. Nigam; IAR 1975-76, p. 43.
7.	Balirājgarh	Sunga	1 Terracotta	Swastika symbol	cf. Sita Ram Roy; IAR 1972-73, p. 7.
8.	Campā	Sunga	Terracotta	—	cf. B. P. Sinha; IAR 1969-70, p. 2.
9.	Daulaupur	Maurya-Sunga	Clay	One in early Brahmi	cf. U. V. Singh; IAR 1968-69, pp. 8-9.



Sl. No.	Name of Site	Period	Material	Remark	Reference
10.	Dangwada	Maurya Śunga	Terracotta Terracotta	— letters in Brahmi of 1st B.C.	cf. V. S. Wakankar; IAR 1978-79, pp. 70-71
11.	Hastināpur	Maurya-Śunga	—	A seal impression showing loops in four quadrants.	B. B. Lal; A.I. nos. 10 & 11.
12.	Jājmau	Maurya	Ivory seal, terracotta seals	Inscription in Brahmi of C. 3rd cent. B.C. and a symbol, the face of a lion, on ivory seal. Most of the terracotta seals also bear inscriptions in Brahmi.	cf. R. C. Singh; IAR 1975-76, p. 52, IAR 1976-77, p. 54.
13.	Katragarh	Śunga	Terracotta seals and sealings	They bear only symbols	cf. Sita Ram Roy; IAR 1975-76, p. 8; IAR 1976-77; p. 12.
14.	Kauśāmbi	Śunga	Seals & sealings	Inscribed in Sunga Script	G. R. Sharma; op.cit (Allahabad, 1960) pp. 85-86.
15.	Mathurā	C. 1st B.C.	1 Terracotta 1 shell	Both inscribed in Brahmi script of 2nd half of C. 1st B.C.	cf. H. Haertel; IAR 1970-71, p. 842
16.	Manwan	Śunga	Terracotta	Inscribed in Brahmi script	cf. B. K. Thapar; IAR 1973-74, p. 32. IAR 1969-70, p. 44.
17.	Noh	Early 2nd B.C.-A.D. 300	Seals & sealings	Inscription in Brahmi Script	cf. R. C. Agrawala; IAR 1966-67, p. 31.
18.	Purānā Qulā	Maurya Śunga	1 terracotta seal and several sealings 2 terracotta seals	Seal bears only symbols. One sealing with four specimens bore one Brahmi letter 'e' and four symbols.	cf. B. B. Lal; IAR 1969-70, p. 4; IAR 1970-71, pp. 8, 10.
19.	Piprahā	C. 1st. Cent. B.C.	Terracotta	Fragile, with inscription in Brahmi	cf. K. M. Srivastava; IAR 1973-74, p. 27; IAR 1974-75, pp. 40-41.

Sl. No.	Name of Site	Period	Material	Remark	Reference
20.	Pataliputra	Śunga	Terracotta and stone Seals and Sealings	They bear legends or symbols.	cf. V. K. Misra; IAR 1955-56, p. 22.
21.	Rājghat	Śunga	Terracotta	Some inscribed in C. 2nd-1st cent. B.C. script, five of them belong to Revālmīta.	A. K. Narain & T. N. Roy; Excavation (Varanasi, 1977), pp. 26-27.
22.	Rāja-Karapa-kā-Qīlī	C. 400-100 B.C.	2 Identical terracotta Seals	Bear symbols of Svastika, snake, Nandipada and crescent.	cf. U. V. Singh; IAR 1975-76, p. 18.
23.	Ruper	C. 600-200 B.C.	Terracotta & Ivory	Both type bear inscription in Maurya Brahmi.	cf. Y. D. Sharma; IAR 1953-54, pp. 6-7
24.	Śrāvastu	C. 300-50 B.C.	Terracotta	Brahmi script	cf. K. K. Sinha; IAR 1958-59, p. 50.
25.	Sonepur	Maurya-Śunga	Terracotta	Defaced legends or symbols as on Punchmarked or cast coins.	cf. A. S. Atekar; IAR 1956-57, pp. 19-20.
26.	Trupuri	200 B.C.	White stone	Bear symbols of Svastika, Taurine, conch and Plough.	cf. K. D. Bajpai; IAR 1968-69, p. 12.
27.	Ujjain	C. 300-200 B.C.	- 2 Ivory,	Early Brahmi Script	cf. N. R. Banerjee; IAR 1956-57, p. 27; IAR 1957-58, p. 36.
28.	Vaiśālī	Maurya-Śunga	Terracotta seals and sealings	Bear Asokan Brahmi and Prakrit script. Maurya symbols include Monkey, Elephant, Ujjain symbol, arrowmark, flower stalk and human feet. Among Śunga symbols were humped bulls, Svastika, taurine, cross, crescent, Usually they possessed string marks to show that they were attached to some literary document or letter, while those without string marks indicate their use as Token.	B. P. Sinha & Sita Ram Roy; Vaisali Excavations (Pauna, 1969), pp. 110-113.

CHART V  
SCENES DEPICTED ON THE SANCHI GATEWAYS

Northern Gateway	Top Architrave	Middle-Architrave	Bottom Architrave	Left Pillar	Right Pillar
Front	(Right to left) Stūpas of Manushi Buddhas Trees of Manushi Buddhas Scenes relating Manushi Buddhas	(Right to left) Stūpas of Manushi Buddhas Scenes relating Manushi Buddhas Sujātā's offering; Temptation by Māra	(Right to left) Vessantara jātaaka As above Alambuṣa jātaaka Vessantara jātaaka As above As above	(Top to bottom) Miracle of Mango tree Jetavana Aerial Promenade Royal Procession Miscellaneous scenes Sakra's visit Royal Procession As above Dvārpālas Indra Salla cave Royal Procession As above Sambha with two necklaces	(Top to bottom) Miracle of Senkaśya The four drives & Great Departure Preaching to the Sākya — — Foreigners worship of stūpa Offering of honey by monkey Visit to Kapilvastu Dvārpāla Dedication of Stūpa containing relics by Mallas Offering of honey by Monkey Trees of individual future Buddha Misc. scenes & decorations
Rear	Chaddantā jātaaka As above				
Inner					
Outer					
Southern Gateway	Birth Great departure Trees & stūpas of Manushi Buddhas	Stūpa of Rāma Grām Chaddanta Jātaka As above As above	Dwarfs with lotuses and garlands Siege of Kuṣṭinagar As above As above	Dharmacakra on a pillar Royal procession Temptation by Mara — — Mucilinda Presentation of bowl Offering of food — — — — Enlightenment	Mucilinda Presentation of bowl Trapusha and Bhallika passing through uruvela — — Broken As above Sujātā's offering chankama Trees of individual future Buddhas Jewel house

Northern Gateway	Top Architrave	Middle-Architrave	Bottom Architrave	Left Pillar	Right Pillar
				<p>Āśoka's visit to Bodhi tree Śakra's visit</p>	<p>Swāsuka's offering Sujātā's offering chankama</p>
				<p>Miscellaneous scenes &amp; decorations</p>	<p>Misce. scenes &amp; decorations</p>
Eastern Gateway	Stūpas of Manushi	Great Departure	—	Chankama	As above
Front	Trees of Buddhas	—	Āśoka's visit to Bodhitree	Bodhitree	—
Rear	Trees of Buddhas	Buddha's worship in jungle by animals	—	Walking on the river	—
Inner	Other scenes relating	As above	Stūpa of Rāmagrām	Royal procession	—
Outer	Manushi Buddhas	Miscellaneous scenes, and decorations	As above	Urueḷā village	Adhyeshana
			As above	Miracle of serpent	Māyā's dream
				Miracle of wood & fire	Visit to Kapilavastu
				Dvārpālas	Dvārpāla
				As above	As above
Western Gateway	Tree of Maitrīya	Tree of Vipasīn	Stūpa & Miscellaneous decorations	—	Miscellaneous scenes and decorations
Front	Trees & stūpas of Manushi Buddhas	Sermon of Mṛgdava	decorations	Miscellaneous decorations	decorations
Rear	Other scenes relating	Tree of Kaśyapa	Chaddania jāta	Miscellaneous scenes and decorations	Mahākapi jāta
	Manushi Buddhas	Siege of Kuṣṇagar	Stūpa & miscellaneous decorations	As above	Adhyeshana
	Transport of the relics	As above	Divine rejoicing	—	Śakra's visit (?)
	As above	As above	Inlighthentment, defeat of Mara	—	Enlighthentment
	As above		As above	Sama jāta	Temptation by Māra
				Muchilinda	Preaching to the Śākyas
				—	Dvārpālas
				—	As above
				—	—
				—	—

CHART VI  
SIZES OF BRICKS AT DIFFERENT SITES

Site		Length	Breadth	Thickness	Average
1		2	3	4	5
Atranjikhhera	(i)	50.8 cm	30.5 cm	8.0 cm	
	(ii)	40.0 cm	46.0 cm	7.5 cm	
	(iii)	Max. 45.0 cm	Max. 30.0 cm	Max. 7.5 cm	
		Min. 43.0 cm	Min. 25.5 cm	Min. 6.3 cm	
	(iv)	42.0 cm	22.0 cm	7.0 cm	
	(v)	37.0 cm	Max. 25.5 cm	6.3 cm	
Min. 23.0 cm					
(vi)	38.0 cm	Max. 31.0 cm	7.5 cm		
		Min. 21.0 cm	(Trapezoidal)		
Alamgirupu	(i)	31.8 cm	31.8 cm	9.5 cm	
	(ii)	47.7 cm	31.8 cm	9.5 cm	
Allahapur	(i)	33.0 cm	16.0 cm	5.5 cm	
	(ii)	39.0 cm	19.5 cm	5.0 cm	
Ayodhya		39.0 cm	23.0 cm	6.0 cm	
Champa		40.0 cm	25.0 cm	7.0 cm	
Hulaskhera	(i)	43.0 cm	24.0 cm	7.0 cm	
	(ii)	38.0 cm	23.0 cm	5.5 cm	
Jajmau	(i)	48.0 cm	24.0 cm	7.0 cm	
	(ii)	48.0 cm	28.0 cm	7.0 cm	
Katragam	(i)	40.0 cm	24.0 cm	7.0 cm	
	(ii)	50.0 cm	30.0 cm	8.0 cm	
Kausambi	(i)	Max. 50.8 cm	Max. 33.0 cm	Max. 8.2 cm	
		Min. 44.5 cm	Min. 28.0 cm	Min. 5.7 cm	
		Aver. 45.7 cm	Aver. 30.5 cm	Aver. 6.3 cm	
	(ii)	49.5 cm	31.7 cm	6.3 cm	
(iii)	44.5 cm	30.4 cm	7.0 cm		
(iv)	42.0 cm	28.0 cm	6.3 cm		
Hastinapur	(i)	44.5 cm	25.5 cm	7.0 cm	
	(ii)	37.0 cm	23.0 cm	6.3 cm	
	(iii)	30.5 cm	22.9 cm	7.0 cm	
15.2 cm			(Trapezoidal)		
Vaisali		37.5 cm	22.5 cm	5 cm	
		47.5 cm	26.5 cm	7.5 cm	
Moradhvaj		42.0 cm	20.0 cm	8.0 cm	
		46.0 cm	20.0 cm	8.0 cm	
		24.0 cm	22.0 cm	7.0 cm	
		22.0 cm	15.0 cm	6.0 cm	
Nanwan		40.0 cm	25.0 cm	6.0 cm	

Masaon		39.0 cm	30.0 cm	6.0 cm
Noh		40.0 cm	20.0 cm	6.0 cm
		39.0 cm	23.0 cm	5.5 cm
		29.0 cm	23.0	5.5 cm
Purana Qila		50.0 cm	26.0 cm	6.0 cm
		44.0 cm	22.0 cm	6.0 cm
		50.0 cm	25.0	7.0 cm
		45.0 cm wedge	30.0 cm	—
		17.0 cm	7.0 cm	—
Pataliputra		32.5 cm	25.0 cm	5.0 cm
		45.0 cm	28.7 cm	5.0 cm
Pralhadpur		45.0 cm	29.0 cm	7.0 cm
		23.5 cm	15.0 cm	5.5 cm
Rajghat		39.0 cm	30.0 cm	7.0 cm
		50.0 cm	31.0 cm	5.0 cm
		48.0 cm	28.0 cm	5.0 cm
Ranihat		30.0 cm	23.0 cm	7.5 cm
		22.8 cm	21.5 cm	5.9 cm
		23.0 cm	17.5 cm	7.5 cm
Sravasti	(i)	Max. 43.0 cm	23.0 cm	7.5 cm
		Min. 40.6 cm		
	(ii)	33.0 cm	23.0 cm	5.0 cm
Ujjain		75.0 cm	75.0 cm	155.0 cm
Sanghol		26.0 cm	22.0 cm	10.0 cm
Mathura		64.0 cm	42.0 cm	7/9 cm
Sonkh		40.0 cm	25.0 cm	5.0 cm
		42.0 cm	26.0 cm	6.0 cm
Bateswara		50.0 cm	25.0 cm	8.0 cm
Chirand		46.0 cm	25.0 cm	8.0 cm
Sonepur		53.3 cm	29.2 cm	7.5 cm
Balirajgarh		50.0 cm	20.0 cm	4.0 cm
Ranihat		30.0 cm	23.0 cm	7.5 cm
		22.8 cm	21.5 cm	5.0 cm
		23.0 cm wedge-shaped	17.5 cm	

As appears from the chart the people of our period used quite big bricks. However, some of them are of unusual size as at Ujjain (75x75x15.5 cms) and Mathura (64x42x7/9 cms). These might have been used for some specific purposes. So far as the general standard size is concerned there appears variations not only at different sites but even at one site itself. Recently Lal has pointed out that these differences were due to variations in the measurement of the then prevailing measuring scale divisible into Angulas, Vitastis and Hastas. Because these measurements varied from person to person, hence the difference. If these differences are ignored, the bricks are more or less constitute a uniform group. (Lal, B. B.; 'On Brick Sizes in Early Historical India', Paper presented at the Annual Conference of Indian Archaeological Society, Pune, Dec. 1983.)

CHART VII  
DEFENCES DURING MAURYA-SUNGA PERIOD

Site	Period	Fortification	Moat	Gateways and Towers	References
Atranjikhhera Distt. Etah	Mauryan	In period III (PGW) a mud bund was erected on the eastern side probably to protect the habitation from the annual flood. Over this massive clay deposit a subsequent packing was done with ashy material containing NBPW sherds and other associated pottery. It seems that during this phase the bund was extended to surround the whole town as rampart. After sometime earth was dug from natural soil to strengthen the rampart and raise its height. Now a few Post-Mauryan mud brick structures were also added to it. During period (2nd-1st cent. B.C.) N, phase D several measures were taken to strengthen the defence :— (1) Renovation of the tower and raising its height. (2) Construction of a flank wall on the northern side of the tower (3) further raising of the rampart's height (4) construction of the parapet walls over the rampart. It appears that while further raising the rampart, the lower part of the tower was also strengthened with mud filling to provide it a stronger base. The brick construction of the parapet wall does not run as a solid mass throughout, but has regular gaps.	—	A circular structure flanked by mud-brick walls was exposed on the inner side at the top of the rampart. It looked like a tower. It had a coating of thick mud plaster mixed with rice husk. Bricks were laid in stretcher fashion. The tower had a pronounced projection in the lower part. The inner side of the tower was filled with compact rammed earth mixed with broken pieces of mud bricks. Remnants of three mud brick pavements were attached to this tower and might be providing access to the tower.	Excavation at Atranjikhhera (Gaur, R. C., 1983) pp. 255-56.
Ahichchhatra Distt. Bareilly	1st cent. B.C. (Post Mauryan)	The city was fortified by a 3.5 miles long peripheral brick defensive wall over two earlier earthen ramparts.	—	—	cf. Y. D. Sharma in A.I. No. 9, pp. 131-40.

Site	Period	Fortification	Moat	Gateways and Towers	References
Ayodhya Distt. Faizabad	3rd cent. B.C. to 1st cent. A.D. (Mauryan to Post- Sunga)	In recent excavations a massive wall of bricks was exposed which most probably surrounded the habitational area (?)	A fairly deep ditch just on the exterior of the fortification was noticed.	—	Cf. A. K. Narain in IAR 1976-77, p. 52.
Besnagar Distt.	Mauryan	A massive wall, originally of dry rubble masonry and twice rebuilt with supporting buttresses was exposed.	—	—	Cf. M. D. Khare in IAR 1964-65, pp. 19-20.
	Sunga	This fortification was made of random rubble masonry in Criss Cross pattern after the wooden palisade. A rampart over it was made of brick jelly and stone masonry. abutting the fortification wall.	Inner edge of the moat was strengthened by stone masonry.	—	Cf. M. D. Khare in IAR 1976-77, p. 33.
Bairajgarh Distt.	2nd cent. B.C. Sunga	Here the exposed fortification had three phases of construction including repairs I. (1) Earlier it was built of big sized bricks (50x20x4 cms.) (2) After destruction by floods it was built of bricks again. The available extent height was of 41 courses."	—	—	I. Cf. Raghbir Singh in IAR 1962-63, p. 5. II. Cf. Sita Ram Roy in IAR 1972-73, p. 7.
Champa Distt.	2nd to 1st cent. B.C. Sunga	The mud rampart here is divisible in two phases. Earlier it was of blackish soil capped by rubble spread. Later defences were built of yellow and red soils with an embankment of brick debris possibly to prevent scouring by water. A ghost wall over the rampart possibly indicates another structural phase.	—	—	Cf. B. P. Sinha in IAR 1969-70, p. 2.
Katragarh Distt.	Sunga	A fortification was constructed at this place in three phases. In first, phase it was constructed of baked bricks provided with offsets at the bottom. Second phase was represented by a	A moat in the second phase of fortification was also noticed.	A semicircular watch tower was associated with the fortification."	I. Cf. Sita Ram Roy in IAR 1977-78, pp. 15-16. II. Cf. Sita Ram Roy in IAR 1975-76, p. 8.



Site	Period	Fortification	Moat	Gateways and Towers	References
Kausambi Dist.		<p>The mud wall with burnt brick massive mud cor. In the last phase the defence wall had sloping sides built of baked bricks which was 2.60 meters wide at the base.<sup>i</sup></p> <p>The mud wall with burnt brick revetment of the first phase (700 B.C.) was further raised in 2nd phase by sixteen feet and widened 28 feet on east. The second subsidiary rampart rested partly on the outer part of the first subsidiary rampart and partly on the accumulated portion against it.<sup>i</sup> The Northern and Southern sides by brick facings and on eastern sides by a curved brick wall. In third phase, the defences were further extended by 25 feet on eastern side.<sup>ii</sup></p>	<p>A moat encircling ramparts with a width of 480 ft. was exposed. The channel of moat was also excavated at the foot of the rampart.<sup>iii</sup></p>	<p>In first phase of eastern rampart a central tower was erected (38ft x 11ft), flanked by projecting platforms on Eastern and Western sides and guard rooms on other sides. In second phase platforms were covered up, the tower widened and rooms rebuilt. In 11rd phase rooms were reconstructed. In fourth phase the tower was extended further southwards by 9.6 ft. but there was no evidence of corresponding northward extension. The height of the tower was 142 x 92 ft. On the outer side of the moat there were some small mounds representing the remains of watch towers. Bases of palace towers were built of stones and upper parts of stones and bricks indiscriminately. They had thick coating of lime plaster.<sup>v</sup></p>	<p>I. Cf. G. R. Sharma in IAR 1958-59, pp. 46-47.            II. Cf. G. R. Sharma in IAR 1957-58, pp. 48-49.            III. Excavation at Kausambi (Sharma, 1960) pp. 38-39.            IV. Cf. G. R. Sharma in IAR 1956-57, pp. 28-29.            V. Cf. G. R. Sharma in IAR 1960-61, pp. 33-35.</p>
Noh Dist.	Mauryan	<p>There was a thick filling of mud raised to the level of the ground against floods.<sup>i</sup></p>	—	—	I. Cf. R. C. Agrawala in IAR 1970-71, p. 32.
Sunga	Sunga	<p>Over this a mud brick structure was raised which represented a rampart wall belonging to 1st cent. B.C.<sup>ii</sup></p>	—	—	II. Cf. R. C. Agrawala in IAR 1963-64, p. 29.

Site	Period	Fortification	Moat	Gateways and Towers	References
Pataliputra Distt. Patna	C. 300 B.C. Mauryan	According to Megasthenes the city was a parallelogram about 9.2 miles in length and 1.7 miles in breadth, girdled with a wooden wall, pierced with lopp holes for the discharge of arrows. <sup>1</sup> A line of wooden palisade made of strong timber was found. A cluster of wooden beams about 25-30 in number and 2 ft in diameter, made of Salwood were found by the side of emperor's moat. A heap of large roughly splintered stones about 2ft. in diameter were probably piled to prevent the beams from becoming undermined by water. <sup>11</sup> At Kankar bagh fourteen posts arranged in four rows were found. Upper ends of most of these posts tapered to a tenon like finish. In a few cases mortises were also observed. Posts were placed 1.50 to 1.75 meters apart. On the sides the posts were enclosed by wooden planks fixed with iron nails, making the structure into a series of boxes, which were rammed with earth and thus formed the core of the fortification wall. <sup>111</sup>	It is reported that there was a ditch in front of the city wall or defence and receiving the sewage of the city. <sup>1</sup> The ditch encompassed the city all around. <sup>1v</sup>	The wall crowned with 570 towers and had four and sixty gates. <sup>1v</sup> To wooden pillars rising to a height of 8-9' between which there was no trace of palisade, appeared to be gateposts. <sup>11</sup> A series of wooden planks built one over the another like the trattles of a bridge. It is evidently a tower or of a jetty or pier projecting in the river. On Eastern fortified offshoot of the emperor's moat were found the cluster of bam palisades and large stones marking the position of a tower. <sup>v</sup>	I. Sirabo, XV, i 35-36, in McCrindles Ancient India, 6 cf. Excavation at Pataliputra (Waddell, 1906) pp. 19-22. II Excavation at Pataliputra (Waddell, 1906) pp. 19-22. III. cf. B. K. Thapar in IAR 1970-71, p. 6 IV Amrian Indica 10, McCrindle 68 cf. Waddell, p. 19-22 V Excavation at Pataliputra (Waddell, 1906) pp. 41-42.
Jalhera Distt.		In the east a low embankment with a basal width of 4.80 meters and 1.20 meters high was found belonging to the late PGW period. But it did not surround the entire settlement. It might have continued (?) in the Mauryan period as well.	A moat or channel on the river side was excavated.	—	Cf. M. D. N. Sahi in IAR 1974-75, pp. 43-45 & IAR 1975-76, pp. 50-51.
Prahladpur Distt.	Mauryan to Sunga	Some bricks in a portion of a nullah at a distance of about 165 meters from the points where it joins Ganga was a	—	—	Excavation at Prahladpur (Narain and Roy, 1968), pp. 10 & 11.

Site	Period	Fortification	Moat	Gateways and Towers	References
Rajgir Dist.	Pre-Mauryan	<p>type of a small clay bund or fortification. It has three structural phases. In first phase, a brick revetment of seven courses almost at the middle of the fortification was laid over a very hard sticky clay, due to which its height was raised by 90 cms from natural soil. During second phase its height was raised by 1.23 meters. In the middle it was revetted with 18 single courses of bricks while at either ends it was packed and well rammed with clay and brickbats. In last phase the height was further raised by 1.17 meters by adding compact clay alongwith soem pieces of brickbats.</p>	—	<p>The natural gaps between hills were utilised as gates in the fortification.<sup>1</sup></p>	<p>I. A. Ghosh in A.I. no. 7, p. 66.          II. Cf. D. R. Patil in IAR 1953-54, p. 9.          III. Cf. Raghbir Singh in IAR 1961-62, pp. 7-8.</p>
	Mauryan	<p>Inside the valley, the chief inner defensive wall was built of heaped up earth with a rough rubble core enclosing a pentagonal area of a perimeter of 5 miles.<sup>1</sup> A high platform of rubble with revetments projecting against the rampart of the citadel, with three different stages of construction.<sup>11</sup></p>	<p>Associated with the later phase of a rampart was a moat but its exact dimenhsion is not known.<sup>1</sup></p>		
	Sunga	<p>In second Mauryan phase (3rd-2nd B.C.) a thick deposit of earth mixed with-ash was laid over the collapsed debris fortification of first phase. In third phase a wall of brickbats was raised to project the weathering of the rampart of previous period.<sup>111</sup></p>			

Site	Period	Fortification	Moat	Gateways and Towers	References
Singhol Distt.		In period IV a mud rampart was found here. Its top was flat and kankary and a yellow earth was found spread over it. It is wider at base than top.	—	—	Cf. S. S. Talwar in IAR 1969-70, p. 32.
Stravasti Distt.		The city was extensively fortified with crescent shaped mud ramparts making a circuit of three miles. It was topped by walls of burnt brick constructed at regular intervals but after the building of the original rampart. Towards the earliest part of the laterhalf, the height of the rampart walls was raised and the brick fortification wall was rebuilt. <sup>1</sup> The massive defences might have been constructed as a measure against the threat of Indo-Greek Invasion. A wide brick wall with 23 courses and in the same alignment as the defences and directly connected with the rampart perhaps served as fortification wall. <sup>2</sup>	—	—	I. Excavation at Stravasti-1959 (Sinha, 1967), 11. II. Ibid., pp. 18-19.
Vaisali Distt. Muzaffarpur	Sunga	In first phase a defence wall made of baked brick was found. Breadth of the fort was also consisted of a massive rampart made of earth in second phase. The rampart was 21-68 feet wide and 13 feet high and belonged to 1st cent. B.C. to 1st cent. A.D. <sup>II</sup>	A moat around the fort was also exposed. <sup>1</sup>	—	I. A. S. Atekar & Sita Ram Roy in IAR 1958-59, p. 6. II. V a i s a l i Excavations (Sinha & Roy, 1969), pp. 5-8.
Malhar Distt. Bilaspur	400 B.C. to 200 A.D.	The habitation appears to be protected by a mud wall, it is not certain whether it was for defence or against flood.	—	—	Cf. K. D. Bajpai in IAR 1975-76, p. 23.
Mathura Distt.		The existence of two rings of mud ramparts, the first one, elliptical in shape and second one, quadrangular	—	—	I. Cf. M. Venkatramayya in IAR 1955-56, pp. 15-16.

Site	Period	Fortification	Moat	Gateways and Towers	References
Madhura	Mauryan	and comprised within the first, as if signifying a citadel. <sup>1</sup> The fortification showed two distinct phases of construction. In earlier phase builders laid compact layers of earth mixed with Kankar over the undulating surface, making a pronounced slope on the exterior. The outer surface was further strengthened with oblique packings. About 1st B.C. it lost its utility. <sup>11</sup>			II. Cf. B. K. Thapar in IAR 1974-75, p. 49.
Ujjain Distt. Ujjain		In period I a massive wall of compact whitish clay laid in hands was noticed. Separated by sticky dark clay with charcoal. The wall overlying a platform of a single course of burnt bricks of large size was laid deep into the yellow compact clay underlying the natural black cotton soil. The rampart suffered badly owing to relentless floods. <sup>1</sup> On river side it was breached at least twice. In second phase it had a brick platform to prevent scouring by water. <sup>11</sup>	Outer edge of the moat lined by 3.9 ft. wide brick wall served as retaining wall. <sup>111</sup>	—	I. Cf. N. R. Banerjee in IAR 1955-56, p. 19. II. Cf. Banerjee in IAR 1956-57, pp. 20-27. III. Cf. Banerjee in IAR 1957-58, pp. 34-35.
Taxila	1st B.C.	In the midfirst cent. B.C. stone defence wall 5.6 kms. long was added to an earlier mud rampart.	—	At the same time, Rectangular bastions at irregular intervals were also added.	Y. D. Sharma in A.I. No. 9, pp. 131-135. IAR 1956-57, p. 29; 1959-60, p. 30; 1961-62, p. 62-63; 1962-63, pp. 46-47; 1963-64, p. 53; 1965-66, p. 59.
Chandrakutgarh Distt.	Mauryan	The fortified city was built over a ram of rammed concrete and was made of earth.			Y. D. Sharma in A.I. No. 9, p. 155 cf. Archaeological remains, monuments & museums pp. 78-79, cf. Excavation at Bangarh (Goswami, 1948), p. 83 ff.
Bangarh	Mauryan Sunga	The ramparts were built of mud in the beginning which later underwent several changes. During Sunga period it had a brick built wide rampart wall.			

# BIBLIOGRAPHY

## (A) Original Sources

- Aitareya Brāhmaṇa*. Ed, Poona, 1896.  
*Amarakośa*. Ed., Hargovinda Sastri. Varanasi, 1970.  
*Arrian's Indica*. Tr., Schwanbeak.  
*Bāṇa's Harsacharita*. Ed., E. B. Cowett and F. W. Thomas.  
*Chullavagga*. Tr., Rhys Davids and Oldenberg. Delhi, 1965.  
*Jātakas*. 6 vols. Tr., Hindi, B. A. Kausalyayana, Prayag, 1941-55. Tr., English, E. B. Cowell. (Cambridge, 1895-1907).  
*Kalidasa's Malavikāgnimitram*. Bombay, 1918.  
*Kalidasa's Raghuvamśa*, with commentary by Mallinatha. Ed., G. R. Nandargikar. Bombay, 1890.  
*Kauṭilya's Arthaśāstra*. Ed. and Tr., R. Shama Sastri. Mysore, 1967.  
*Lalitavistara*. Ed., P. L. Vaidya. Mithila Vidyapith, 1958.  
*Milindapanho*. Tr., Rhys Davids, *Sacred Books of the East Series*, vol. 4. Ed., F. Max Muller. Delhi, 1965.  
*Panini's Ashtadhyayi Sūtrapath*. Ed., Shankar Ram Sastri. Madras, 1937.  
*Patanjali's Mahābhāṣya*. Ed., Chārudatta Sastri. Varanasi, 1962.  
*Rigveda*. Ed., Sripada Damodara Satavalekar. Bombay.  
*Śatpatha Brāhmaṇa*. Ganga Vishnu Shri Krishna Das. Kalyan, 1940.  
*Srimad Valmiki Rāmāyana*. Gita Press, Gorakhpur.  
*Strabo's Geography*. Tr. H. C. Hamilton and W. Falconer. London, 1892-93.  
*Sudraka's Marichchhakatīkam*. Ed., Sri Niwas Sastri. Meerut, 1968.  
*Svapnavasavadatta*. Ed., P. P. Sharma. Allahabad, 1952.

## (B) Modern Works

- Acharya, P. K., *Indian Architecture*, Manasāra Series II. New Delhi, 1981.  
—, *Architecture of Manasāra*. New Delhi, 1980.  
—, *Hindu Architecture*, Manasāra Series VI. New Delhi, 1979.  
Agnihotri, P. D., *Patanjali Kalina Bharata*. Patna, 1963.  
Agrawala, V. S., *A Handbook of the Sculptures in the Curzon Museum of Archaeology, Mathura*. U.P., 1933.  
—, *Harshacharita*. Poona, 1964.  
—, *Indian Art*. Varanasi, 1965.  
—, *Saranath*. Delhi, 1980.

- , *A short Guide Book to Archaeological Section, Provincial Museum, Lucknow*. Allahabad, 1940.
- , *Studies in Indian Art*. Varanasi, 1965.
- Allan, J., *Catalogue of Indian Coins in Ancient India*. London, 1936.
- Altekar, A. S., *The Position of Women in Hindu Civilization*. Delhi, 1978.
- Auboyer, J., *Daily Life in Ancient India*. New York, 1965.
- Ayyar, Sulochana, *Costumes and Ornaments as depicted in the Early Sculptures of Gwalior Museum*, New Delhi, 1988.
- Basham, A. L., *The Wonder that was India*. London, 1954.
- Bechofer, L., *Early Indian Sculpture*. New Delhi, 1973.
- Barua, B. M., *Bharhut*. Patna, 1979.
- Basak, R. G., Ed., *Aśokan Inscriptions*. Calcutta, 1959.
- Bhandarkar, D. R., *Aśoka*. Calcutta, 1955.
- Bhushan, J. B., *The Costumes and Textiles of India*. Bombay, 1958.
- Brown, Percy, *Indian Architecture, Buddhist and Hindu*. Bombay, 1942.
- Basu, J., *India of the Age of the Brahmanas*. Calcutta, 1969.
- Chaudhary, K. A., *Ancient Agriculture and Forestry in Northern India*. Bombay, 1977.
- Coomaraswamy, A. K., *Early Indian Architecture: Palaces*. New Delhi, 1975.
- , *History of Indian and Indonesian Art*. Delhi, 1972.
- , *Introduction to Indian Art*. Delhi, 1969.
- Craven, Roy C., *A Concise History of Indian Art*. London, 1976.
- Cunningham, A., *The Stupa of Bharhut*. Varanasi, 1962.
- Das, A. C., *Rigvedic Culture*. Calcutta, 1925.
- Das Gupta, C. C., *Origin and Evolution of Indian Clay Sculpture*. Calcutta, 1961.
- Dauids, Rhys, *Buddhist India*. London, 1903.
- Edwardes, M., *Everyday Life in Early India*. London, 1969.
- Fergusson, F., *Indian and Eastern Architecture*, vol. II. London, 1910.
- Foucher, A., *Beginning of Buddhist Art*. London, 1918.
- Ghosh, A., *Archaeological Remains, Monuments and Museums*, part I: New Delhi, 1964.
- , *Jain Art and Architecture*. New Delhi, 1974.
- Grunwedel, A., *Buddhist Art in India*. Varanasi, 1974.
- Ghurey, G. S., *Indian Costumes*. Bombay, 1966.
- Gopal, Lallanji, *Aspects of History of Agriculture in Ancient India*. Varanasi, 1980.
- Gupta, P. L., *Gangetic Valley Terracotta Art*. Varanasi, 1972.
- , Ed., *Patna Museum Catalogue of Antiquities*.
- Gupta, S. P., *Roots of Indian Art*. Delhi, 1980.
- Gopinath Rao, T. A., *Elements of Hindu Iconography*, vol. II. 1961.
- Ghoshal, U. N., *Hindu Revenue System*. Calcutta, 1972.
- Hultzsch, E., *Corpus Inscriptionum Indicarum*, vol. I. London, 1888-1925.
- Jain, J. C., *Life in Ancient India as described in Jain Canons*. Bombay, 1947.
- Jairazbhoy, R. A., *Foreign Influence in Ancient India*. Bombay, 1965.
- Kala, S. C., *Terracottas in the Allahabad Museum*. New Delhi, 1980.
- , *Terracotta Figurines from Kausambi*. Allahabad 1950.
- Kangle, R. P., Ed., *The Kautilya Arthaśāstra*. Bombay, 1960.
- Kar, Chintamani, *Classical Indian Sculpture*. London, 1950.
- Khanna, A. N., *Archaeology of India*. New Delhi, 1981.

- Kosambi, D. D., *The Culture and Civilization of Ancient India*. New Delhi, 1977.
- Krishnamurty, K., *Material Culture of Sanchi*. New Delhi, 1983.
- Majumdar, N. G., *Monuments of Sanchi*. Calcutta, 1940.
- Majumdar, R. C., *The Age of Imperial Unity*. Bombay, 1968.
- , *Ancient India*. Delhi, 1977.
- , *Corporate Life in Ancient India*. Calcutta, 1969.
- , *Vedic Age*. Bombay, 1952.
- Maisey, F. C., *Sanchi and Its Remains*. Delhi, 1972.
- Maity, S. K., *Early Indian Coins & Currency System*. New Delhi, 1970.
- Marshall, J. and Foucher, A., *A Guide to Sanchi*. New Delhi, 1980.
- Marshall, J. and Foucher, A., *The Monuments of Sanchi*. Delhi, 1982.
- McCrinkle, J. W., *Ancient India as described by Megasthenes and Arrian*. Calcutta, 1960.
- , *Ancient India as described in Classical Literature*. Westminster, 1901.
- Mehta, R. J., *Masterpieces of Indian Sculptures*. Bombay, 1976.
- Mitra, D., *Sanchi*. New Delhi, 1965.
- Mookerjee, R. K., *Indian Shipping*. Calcutta, 1957.
- Motichandra, *Prachin Bharatiya Vesh-Bhusha*. Allahabad, 2007 V.S.
- , *Trade and Trade Routes in Ancient India*. New Delhi, 1977.
- Munshi, K. M., *The Saga of Indian Sculpture*. Bombay, 1957.
- Negi, J. S., *Groundwork of Ancient Indian History*. Allahabad, 1958.
- Puri, B. N., *India in the time of Patanjali*. Bombay, 1968.
- Pant, G. N., *Indian Arms and Armour*, vol. I. New Delhi, 1978.
- , *Indian Arms and Armour*, vol. II. New Delhi, 1980.
- , *Indian Archery*. New Delhi, 1980.
- Rapson, E. J., *Cambridge History of India*, vol. I. New Delhi, 1968.
- , *Indian Coins*. Strassburg, 1897.
- Ray, N. R., *Mauryan and Post-Mauryan Art*. New Delhi, 1975.
- Raychaudhuri, H. C., *Political History of Ancient India*. Calcutta, 1953.
- Rawlinson, H. G., *Intercourse between India and the Western World*. Cambridge, 1916.
- Rowland, B., *Pelican History of Art*. 1967.
- Sahay, S., *Indian Costumes, Coiffure and Ornaments*. New Delhi, 1973.
- Saraswati, S. K., *A Survey of Indian Sculpture*. New Delhi, 1975.
- Sen Gupta, P., *Every-day Life in Ancient India*. Bombay, 1957.
- Sharma, R. C., *Buddhist Art of Mathura*. Delhi, 1984.
- Sircar, D. C., *Early Indian Indigenous Coins*. Calcutta, 1970.
- Sivaramamurti, C., *Indian Sculpture*. Bombay, 1961.
- , *Some Aspects of Indian Culture*. New Delhi, 1969.
- , *5000 years of the Art of India*. Bombay.
- Smith, V. A., *Catalogue of Coins in Indian Museum*, vol. I, part II. Oxford, 1906.
- , *Early History of India*. Oxford, 1924.
- Srivastava, A. L., *Life in Sanchi Sculpture*. New Delhi, 1983.
- Shanti Swaroop, *5000 Years of Arts and Crafts in India and Pakistan*. Bombay, 1968.
- Taddei, M., *Monuments of Civilization: India*. London, 1977.
- Upadhyaya, Ramji, *Prachin Bharatiya Sahitya ki Samskritika Bhūmikā*. Allahabad, 1966.
- Vogel, J. Ph., *Catalogue of the Archaeological Museum at Mathura*. Allahabad, 1910.
- Wheeler, R. E. M., *Early India and Pakistan*. London, 1959.



Winstedt, R., *Indian Art*. New Delhi, 1966.  
 Zimmer, H., *The Art of Indian Asia*, vol. 2. New York, 1964.

## (C) Excavation Reports

Bhandarkar, D. R., *Excavations at Besnagar*. ASI, AR, 1913-14. 191.  
 Gaur, R. C., *Excavations at Atranjikhera*. Delhi, 1983.  
 Goswami, K. G., *Excavation at Bangarh*. Calcutta, 1948.  
 Lal, B.B., *Ancient India*, nos., 10 and 11.  
 Majumdar, N. G., *Exploration at Lauriya Nandangarh*. ASI-AR, 1935-36.  
 ———, *Excavations at Lauriya Nandangarh*. ASI-AR, 1936-37. 1940.  
 Marshall, J. H., *Excavations at Bhita*. ASI-AR, 1911-12. 1915.  
 Marshall, *Taxila*. Cambridge, 1952.  
 Narain, A. K., and Roy, T. N., *Excavations at Prahladpur*. Varanasi, 1968.  
 ———, *Excavations at Rajghat*, vol. I. Varanasi, 1976.  
 ———, *Excavations at Rajghat*, vol. II. Varanasi, 1977.  
 Narain, A. K. and Singh P., *Excavations at Rajghat*, vol. III. Varansi, 1977.  
 Narain, A. K. and Agrawala, P. K., *Excavations at Rajghat*, vol. IV. Varanasi, 1978.  
 Page, J. A., *Bulandibagh, near Patna*. ASI-AR, 1926-27.  
 Sankalia, H. D., et.al., *Excavations at Maheshwara and Navadatoli*. Baroda, 1958.  
 Sharma, G. R., *Excavations at Kausambi*. Allahabad, 1960.  
 Sinha, B. P., *Pataliputra Excavations 1955-56*.  
 Sinha, B. P. and Sita Ram Roy, *Vaisali Excavations*. Patna, 1969.  
 Sinha, K. K., *Excavations at Sravasti 1959*. Varanasi, 1967.  
 Spooner, D. B., *Excavations at Basarh*. ASI-AR, 1913-14. 1917.  
 Waddell, L. A., *Excavations at Pataliputa*. Delhi, 1975.

## (D) Journals and Periodicals

Ancient India  
 Antiquity  
 Archaeological Survey of India, Memoirs  
 Archaeological Survey of India, Annual Reports  
 Archaeological Survey Reports  
 Bulletin of the Museum of Fine Arts, Boston  
 East and West  
 Epigraphia Indica  
 Indian Archaeology—A Review  
 Indian Historical Quarterly  
 Journal of the Bihar and Orissa Research Society  
 Journal of Indian Society of Oriental Art, Calcutta  
 The Journal of Puravid Parishad, Patna  
 Journal of the Royal Asiatic Society of Bengal  
 Journal of the Uttar Pradesh Historical Society  
 Marg  
 Nagari Pracharāṇī Patrikā

## Puratattva

## Seminar Papers on the Chronology of Punch

## Marked coins

## (E) Papers

- Agrawala, R. C., 'Early Indian Bone Figures in the National Museum, New Delhi', *East & West*, vol. XVIII.
- Agrawala, V. S., 'Terracotta Figurines of Ahichchhatra', *Ancient India*, No. 4, 1947-48.
- , 'Mathura Terracottas', (*JUPHS*, vol. IX.
- Banerjee and Sastri, 'The Nati of Pataliputra', *IHQ*, vol. IX, 1933.
- , 'Maurya Sculptures from Lohanipur, Patna', *JBORS*, XXVI, 1940.
- Beck, J. H., 'Beads from Taxila', *MASI*, no. 65.
- Chakraverty, Dilip, 'The Beginning of Iron in India', *Antiquity* I, 1976.
- Coomaraswamy, A. K., 'Archaic Indian Terracottas', *IPek*, 1928.
- , 'Early Indian Terracottas', *BMFAB*, 1927.
- Gaur, R. C., 'Some Issues of the Indian Iron Age at the International Conference on Recent Advances in Indian Archaeology', Pune, 1983.
- Garden, D. H., 'Early Indian Terracottas', *JISOA*, vol. XI.
- Gupta, S. P., 'Arrow-heads—Its Technology and History', *JBORS*, vol. XLVII, 1961.
- Jayaswal, K. P., 'Terracottas dug out at Patna', *JISOA*, vol. III.
- , 'Jain Image of Maurya Period', *JBORS*, XXIII, 1937.
- Johnston, E. H., 'A Terracotta Figure at Oxford', *JISOA*, vol. X.
- Lal, B. B., 'Sisupalgarh, 1948: An Early Historical Fort in Eastern India', *A.I.* No. 5, 1949.
- Sahi, M. D. N., 'Origin of Iron Metallurgy in India', 1979 (unpublished).
- Sharma, G. B., 'A Summary of Archaeological Excavations in Punjab', *Archaeology and Sculpture Exhibition (Chandigarh)*.
- Young, G. M., 'A New Hoard from Bhir Mound, Taxila', *A.I.* No. 1.

## (F) Felicitation Volumes

- Chhavi, Golden Jubilee Volume*, Varanasi, 1971.
- Chhavi, Rai Krishna Das Felicitation Volume II*, Varanasi, 1981.
- Costumes, Textiles, Cosmetics and Coiffure in Ancient and Medieval India—A Dr Motichandra Felicitation Volume*. Ed. S. P. Gupta. Delhi, 1973.

## (G) Encyclopedias and Dictionaries

- Apte, V. S., *Sanskrit-English Dictionary*, 3 vols. Poona, 1957-59.
- Rhys Davids and William Stede, *Pali-English Dictionary*. London, 1959.
- James Hastings, *The Encyclopaedia of Religion and Ethics*, 12 vols. and Index Volume. New York, 1958.

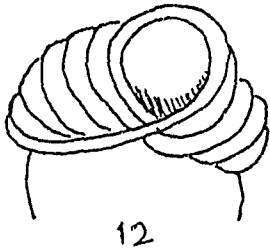
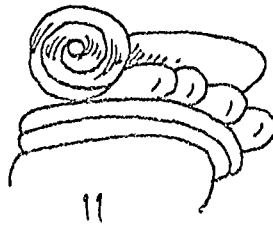
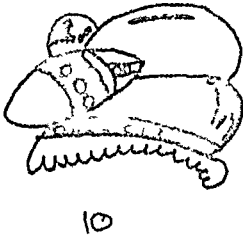
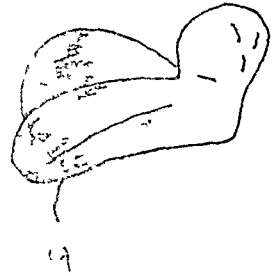
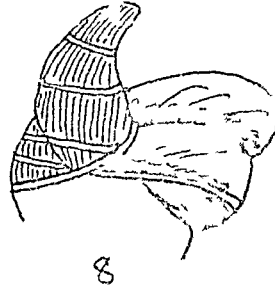
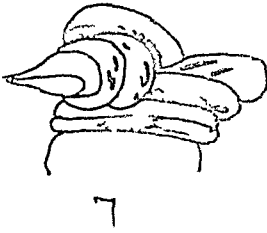
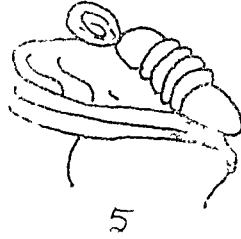
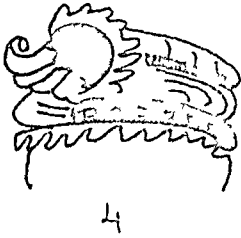
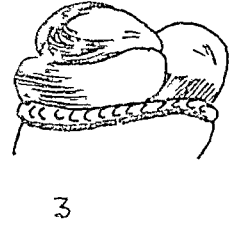
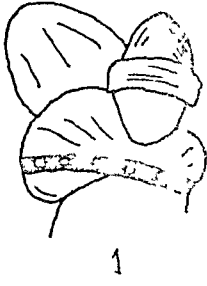
# INDEX

- Agnimitra, 4, 106  
Agrawala, V. S., 25, 122, 141, 147  
Agriculture, in Northern India, 88-91  
    harvesting, 90  
    irrigation, 89-90  
    land and crop, 88-89  
    plants and trees, 90-91  
Alexander, 2, 88, 103, 214  
Allan, 107  
Altekar, A. S., 12, 71, 177  
Amarakoṣa, 9  
Antimony rods (Kohl sticks), 26  
Antiochus I, 3  
Anvil, 95  
Architecture of Northern India, 158-82  
    *see also*, Buildings  
Aristoboulos, 91  
Armlet (Keyura), 23-24  
Armour, 218-19  
Army, 210-12  
Arrian, 211-214  
Art, of Northern India, 118-48  
Arthaśāstra, 2, 7, 18, 87-89, 92, 94-95, 99, 103, 108, 164, 174, 218  
Aśoka, 2-3, 65, 89, 91, 102-03, 105-06, 118, 120, 175, 177-78, 181, 198-200, 202, 213  
Axe, 95  
  
Bāṇabhaṭṭa, 4  
Banerjee, R. D., 93  
Bangles, 23  
Beads, 21-23  
Beard, 29-30  
Bechhofer, L., 120  
Bhadra, 4  
Bhāgavata, 4, 107  
Bhāgbhadra, 4  
Bindusāra, 3, 106  
Block, 93  
Borer, 97  
Bowyers, 95  
Bracelets, 23  
Brahmanism, 191-92  
Bṛhadratha, 3  
Bṛhaspati Mitra, 106  
Buddhism, 198-200  
  
Buildings, 163-82  
    cave resorts, 181  
    domestic wells, 171  
    doors and windows, 170-71  
    drains, 172-73  
    dwelling houses, 165  
    floors and courtyards, 169-70  
    foundations, 165  
    gardens, 165  
    house plan, 168-69  
    kitchen, 169  
    man-hole, 173  
    market places, 165  
    materials, 65-67  
    other structures, 173-74  
    palaces, 163-64  
    pillars, 175-77  
    plaster, 167-68  
    railings, 179-80  
    religious, 175-82  
    roof, 170  
    shrines and monasteries, 180-81  
    soakage wells, 171-72  
    stairway, 171  
    stūpas, 177-79  
    temples, 181-82  
    walls, 167  
  
Bullock carts, 99-100  
Butchery, 95  
  
Carpenters, 94  
Cart coins, 106-07  
Cattle breeding, 91  
Chāṇakya, *see*, Kautilya  
Chariots, 100-02  
Chisel, 95-96  
Chopper, 96-97  
Chopping knife, 96  
Cities and towns,  
    fortification, 159-61  
    gateways and towers, 162  
    moat, 161-62  
    roads, 162-63  
Coinage system, 104-09  
Comb, 26  
Coomaraswamy, A. K., 118, 193, 196

- Copper Smiths, 94  
 Crucible, 97  
*Cullavagga*, 170  
 Cunningham, A., 12, 122, 132  
 Curtius, 9
- Daily use items, 30-35  
 Dance and music, 67-68  
 Daśaratha, 3, 106, 181, 202  
 Das Gupta, C. C., 13  
 Davids, Rhys, 171  
 Demetrius, 4  
 Deva Dharmana, 106  
 Devabhūmi, 4, 107  
 Devabhūti, 4  
 Dhanananda, 2  
 Drinking, 67
- Economic conditions, in northern India, 87-109  
 Eucratides, 4
- Factory sites, 98  
 Female dress, 12-15  
   lower garment, 13-14  
     sari, 13  
     skirt, 13  
     waist band, 14  
   upper garment, 14-15  
     dupatta, 14  
     turban, 14-15  
 Female hair dress, 27-29  
 Fergusson, F., 124  
 Finger rings, 24  
 Fishing, 95  
 Flowers and garlands, 27  
 Furnaces, 98  
 Furniture, 30-33
- Ghośa, 4, 107  
 Ghośāl, 90  
 Gopāl, Lallanji, 90  
 Gopāl, M. S., 90  
 Gordon, D. H., 18
- Hacnel, H., 204  
 Hair dress, 27-29  
 Hair pin, 26-27  
 Hammer, 95  
*Harsacharita*, 4  
 Hegde, 38  
 Heliodorus, 4  
 Herdsmen, 94  
 Hunting, 65-66
- Iron smiths, 94  
 Ivory carvers, 94
- Jainism, 200-02
- Jālauka, 3  
 Jayaswal, K. P., 193  
 Jethamitra, 4  
 Jewellers, 94  
 Jyeṣṭha, 106
- Kala, S. C., 139, 147  
 Kālidāsa, 9, 25, 126  
 Kāngle, R. P., 90  
 Kautilya, 3, 7, 25, 87, 91-92, 94-95, 99, 160-61, 164, 174, 212-15, 218  
 Kirta, 16  
 Kosambi, D. D., 161  
 Kuṅāla, 3
- Lac-dye, 26  
 Lal, B.B., 38, 92, 145, 166  
 Land transport, 99-103
- Mahābhārata*, 25  
*Mahābhāṣya*, 4, 7, 29, 193  
*Mshāvagga*, 170  
 Mahendra, 3, 178  
 Majumdar, N. G., 196  
*Mālavikāgnimitra*, 4  
 Male dress and drapery, 7-12  
   footwear, 11  
   lower garment, 10-11  
     dhou, 10  
     kativastra, 10  
     tahband, 11  
     trousers, 11  
   professional wear, 11-12  
     ascetics' dress, 12  
     hunters' dress, 12  
     soldiers' dress, 11-12  
   upper garment, 8-9  
     cap, 8  
     fillet, 8-9  
     kaṅcuka, 9  
     uṣṇisa, 8  
     utariya, 9
- Male hair dress, 29  
 Manu, 25  
 Marshall, J. H., 11, 137, 159, 193  
*Matsya Purāṇa*, 3  
 Maurya, Chandragupta, 2, 64, 88-89, 105-06  
 Megasthenes, 2-3, 29, 65, 87, 89-90, 92, 99, 101, 103, 158-59, 161, 193, 214  
*Milindapanho*, 2, 158  
 Mines and metallurgy, 92-93  
 Mirror (Darpaṇa), 26  
 Misra, 71  
 Motichandra, 11-12  
 Moustaches, 29-30  
 Mukṭāvali, 15-16  
 Mulindaka, 106  
 Musical instruments, 68-70

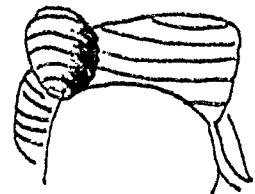
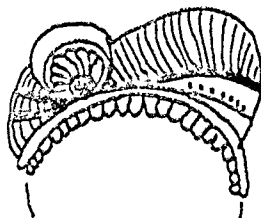
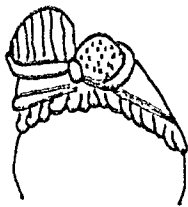
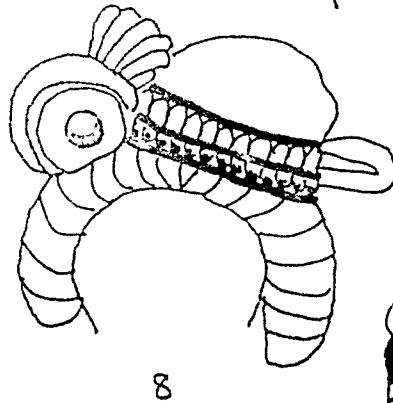
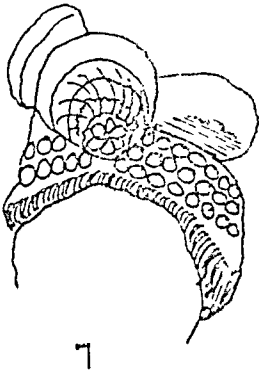
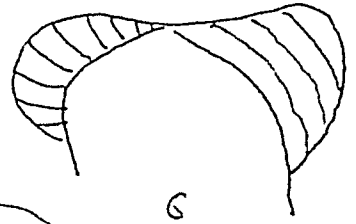
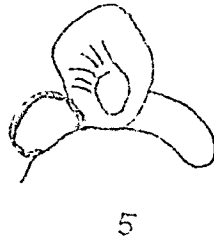
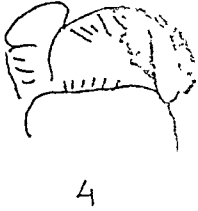
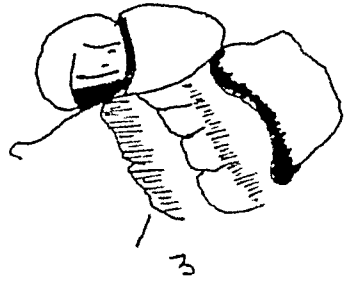
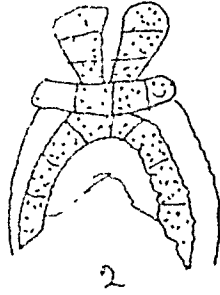
- Nail parer, 26  
 Nārāyaṇa, 4  
 Nearchus, 32  
 Necklaces, 18-20  
 Nicator, Seleucus, 2  
 Northern India,  
   architecture, 158-82  
     buildings, 163-82  
     cities and towns, 158-63  
 art, 118-48  
   bone and ivory objects, 133  
   metal objects, 133  
   sculptures, 118-33  
   terracottas, 133-48  
 arms and armaments, 210-19  
   armour, 218-19  
   army, 210-12  
   weapons, 212-18  
 economic conditions, 87-109  
   agriculture, 88-91  
   artisan's tools, 95-98  
   coinage system, 104-09  
   furnaces and factory sites, 98  
   industry and trade, 87-88, 91-92  
   other professions, 91-95  
   seals and sealings, 109  
   shops and markets, 98  
   transport and communication, 99-104  
   weight and measures, 98  
 political situation, 2-5  
 religion, 191-204  
   amulets, 204  
   animals in, 202-03  
   Brahmanism, 191-97  
   Buddhism, 198-200  
   Fire receptacle, 204  
   Jainism, 200-02  
   minor religious sects, 202  
   mythical beings, 197-98  
   ritualistic pots, 204  
   trees in, 203  
   votive tanks, 204  
 social life, 7-72  
   coiffures and cosmetics, 25-35  
   dress and drapery, 7-15  
     female, 12-15  
     male, 7-12  
   ornaments and jewellery, 15-25  
   pots and pans, 35-65  
   recreation, 65-72
- Odraka, 106  
 Oldenberge, 171  
 Ornaments and jewellery, 15-25  
   ear, 16-18  
   hand, 23-25  
   head, 15-16  
   neck, 18-23
- Pāṇini, 4, 25, 89  
 Patañjali, 7, 16, 25, 29, 89, 193  
 Philadelphus, Ptolemy, 88  
 Picnic, 66  
 Pin, 97  
 Pipe, 96  
 Pippahalivana, 2  
 Plutarch, 2  
 Potters, 94  
 Pottery, 35-65  
   as depicted in sculpture, 62-65  
   classification, 39-62  
   decoration, 38-39  
   technique, 37-38
- Pulindaka, 4  
 Punch marked coins, 105-06  
 Puṣyamitra, 3, 106
- Rājatarāṅgiṇī*, 3  
*Rāmāyaṇa*, 9, 25  
 Religion, 191-204  
   amulets, 204  
   animals in, 202-03  
   Brahmanism, 191-97  
   Buddhism, 198-200  
   Fire receptacle, 204  
   Jainism, 200-02  
   mythical beings, 197-98  
   ritualistic pots, 204  
   trees in, 203  
   votive tanks, 204
- Ēigveda*, 14, 18  
 Ring fastener, 97
- Sāhni, K. K., 108-09  
 Śāliśuka, 3, 106  
 Saṃprati, 106  
 Sātavāhana Simuk, 4  
 Scrapper, 97  
 Sculptures, 118-23  
   Aśoka pillars, 118-20, 129  
   at Bharhut, 121-26  
   at Bodhgaya, 129-30  
   at Sāñct, 126-29  
   Dhaulī elephant, 120  
   miscellaneous, 131-32  
   railing images, 130-31  
   ring stones, 132-33  
   Yakṣha and Yakṣhins, 120-21
- Sea transport, 103-04  
 Seals and sealings, 109  
 Sen Gupta, Padmini, 163  
 Shops and market places, 98  
 Social life in northern India, 7-72  
 Socket, 97-98  
 Spooner, D. B., 163, 198  
 Śrīvastava, H. C., 92  
 Stone carving, 93-94

- Strabo, 64, 211  
 Stylus, 97  
 Śūdraka, 9  
 Sujestha, 4  
 Śunga, Puṣyamitra, 4-5  
 Suśarmaṇa, 4  
 Svamaṇa Pattika, 16  
  
 Tattoo marks, 27  
 Terracottas, 133-48  
     animal figurines, 135-38  
     double mould made figurines, 147-48  
     historical scenes, 147  
     human figurines, 138-42  
     moulded figurines, 142-47  
 Textile industry, 91-92  
 Tilaka mark (Bīndī), 27  
 Tivara, 3  
 Toilet box (Prasādhana Petikā), 25  
 Tongs, 96  
  
 Torques (Kantihāras), 20  
 Transport and communication system, 99-104  
 Tube, 96  
 Tushāspa, 3  
  
 Vaikakshayak (Channavira), 20-21  
 Vajramitra, 4, 107  
 Vāsudeva, 4  
 Vasujyeṣṭha, 4  
 Vasumitra, 4  
 Vāyu Purāṇa, 3  
 Viṣṇu Purāṇa, 3  
 Viṣṇugupta, *see*, Kautilya  
 Viśvantara, 8  
 Vredenburg, 93  
  
 Waddell, L. A., 161-63  
 Water-sports, 66-67  
 Weapons, 212-18  
 Weight and measures, 98



TURBANS 2.





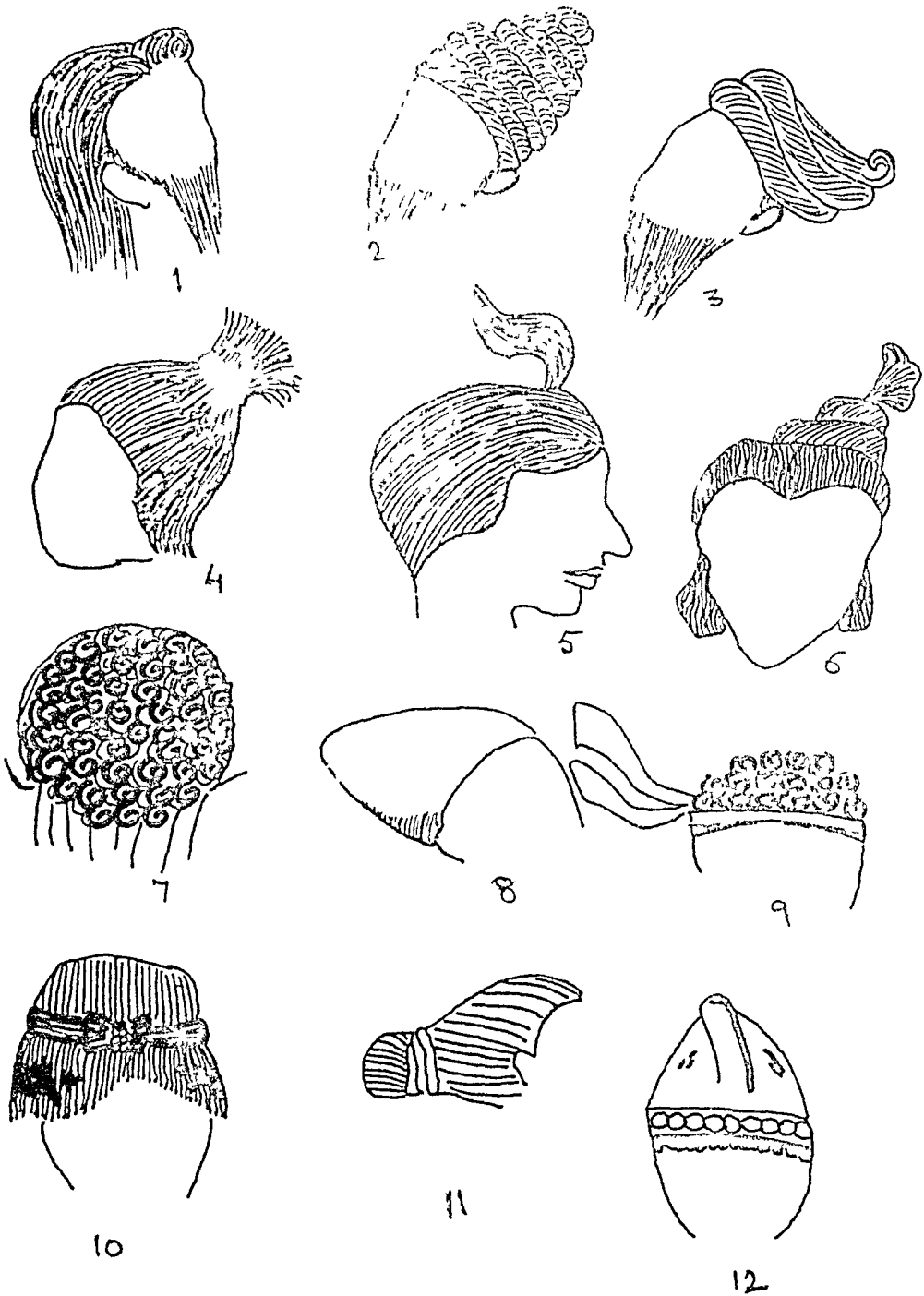
10

11

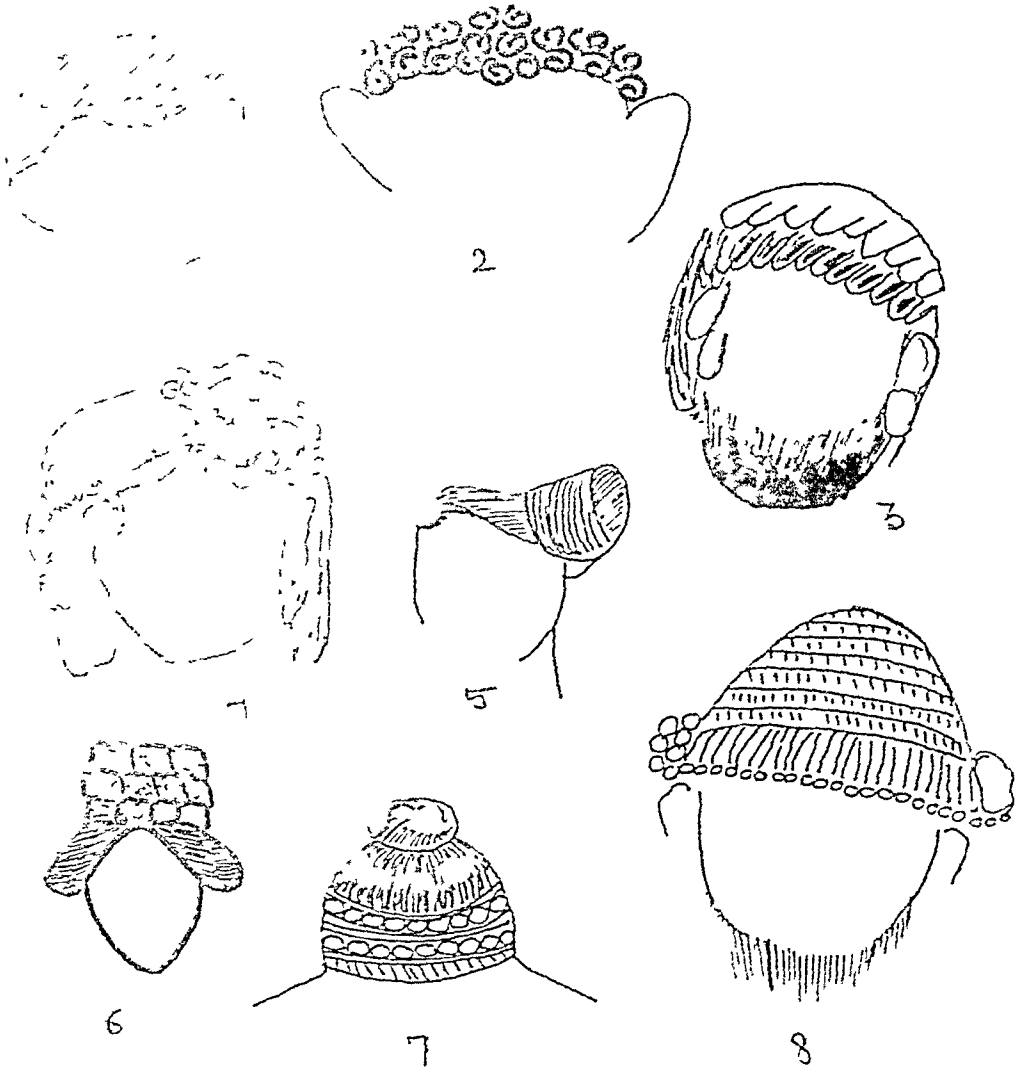
12

**TURBANS**

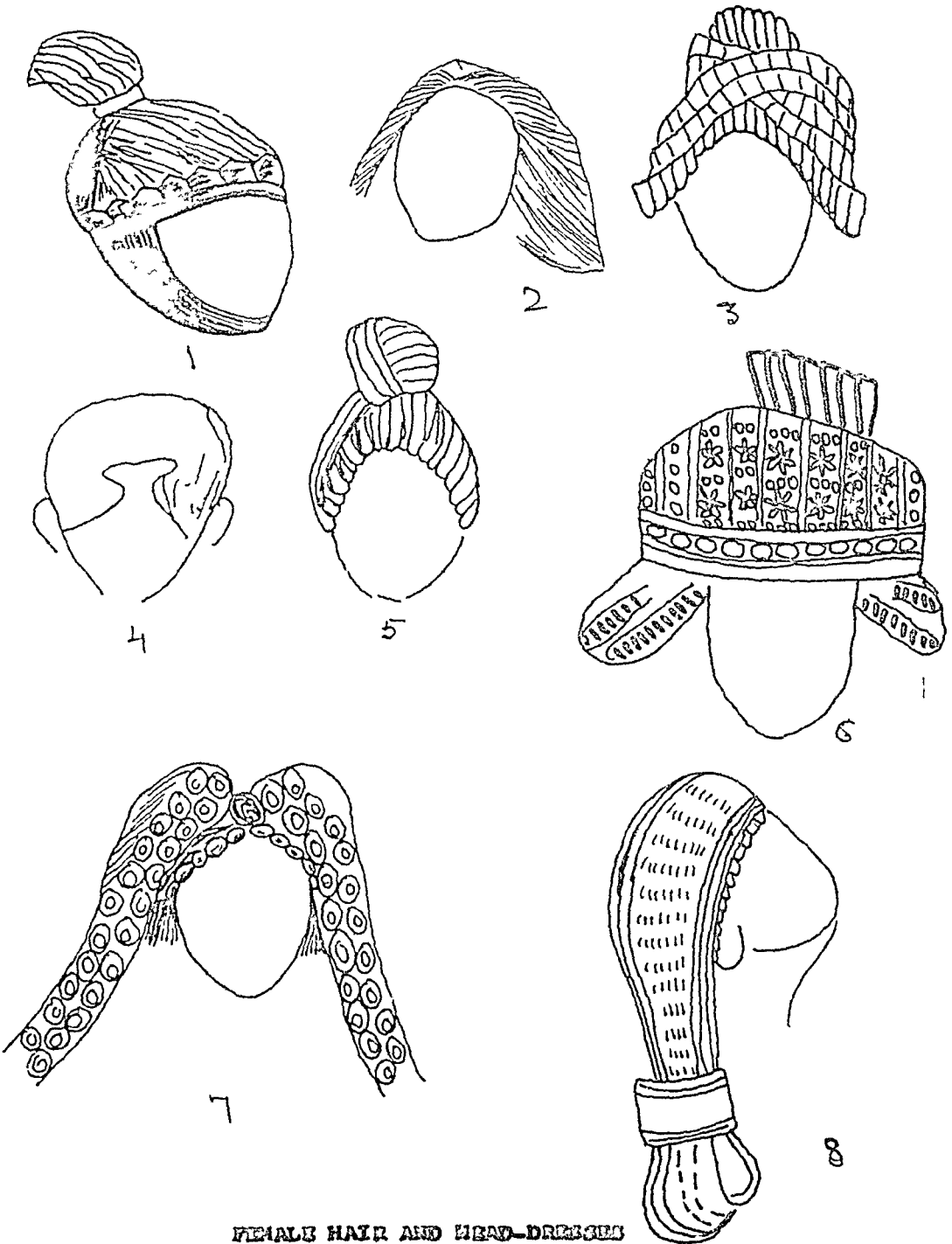




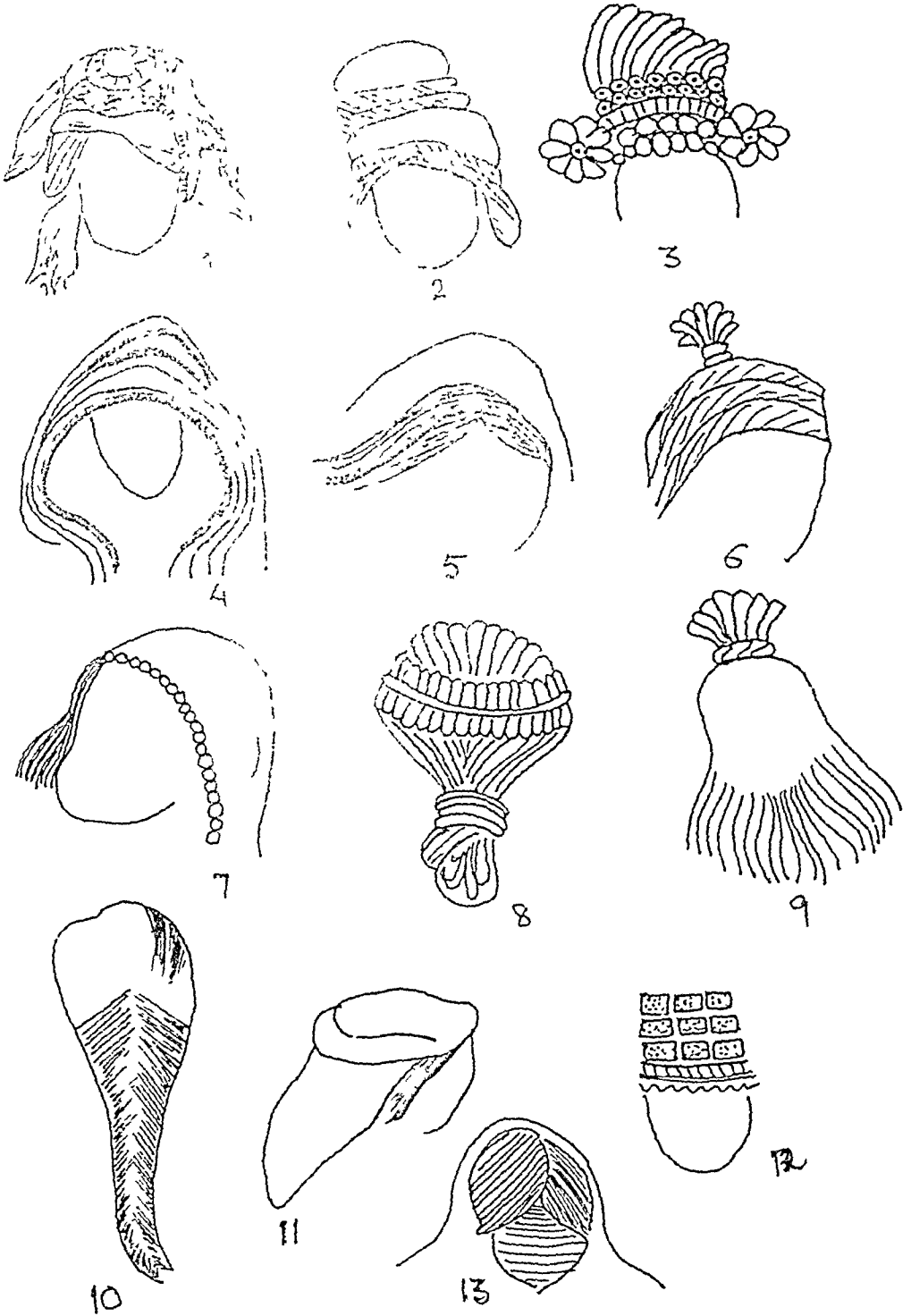
MALE HAIR AND HEAD-DRESSES



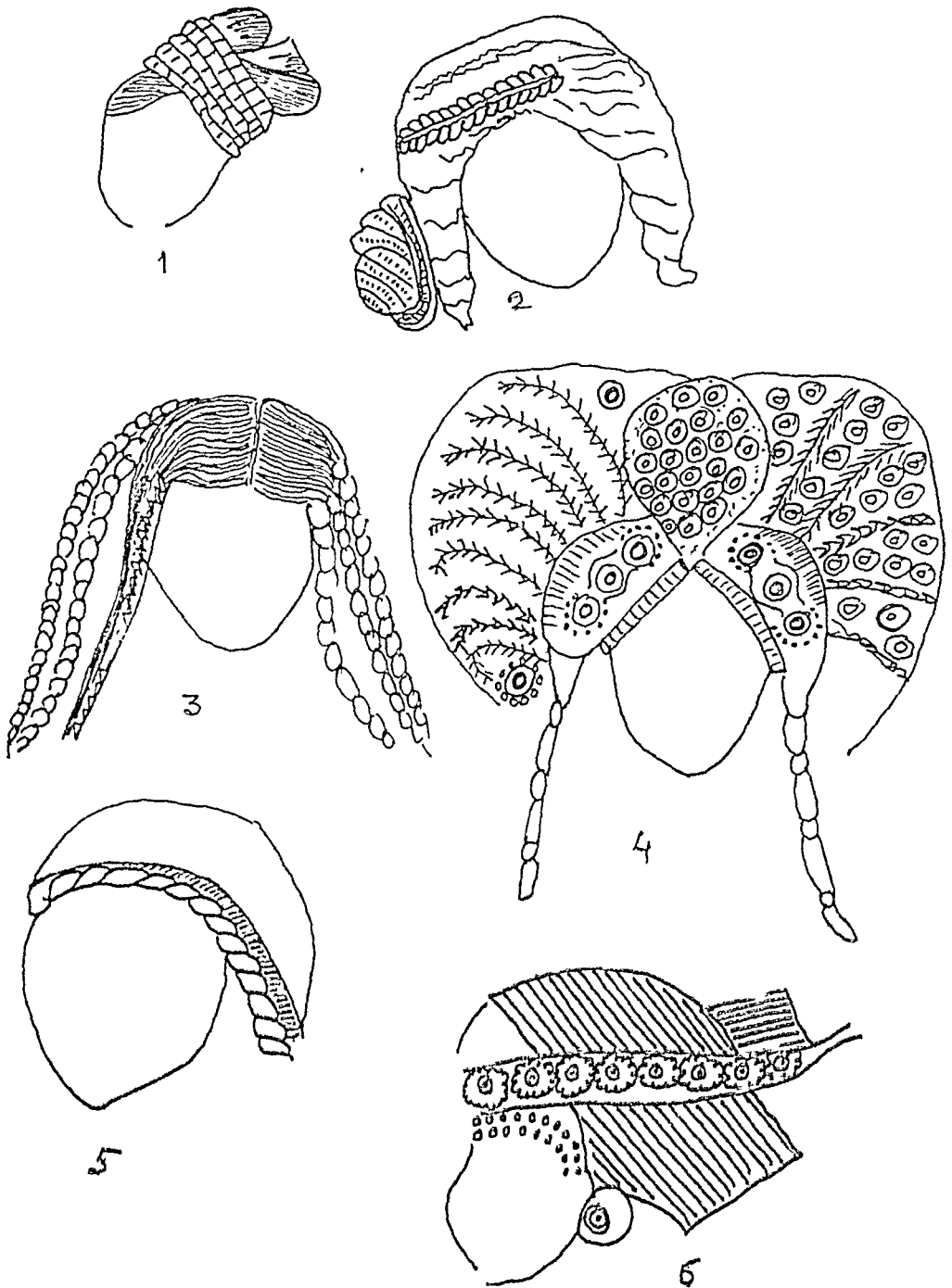
MALE HAIR AND HEAD-DRESSES



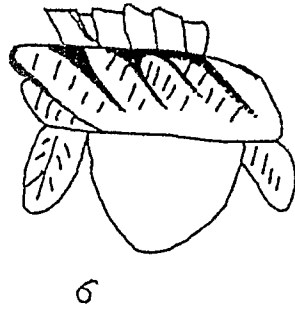
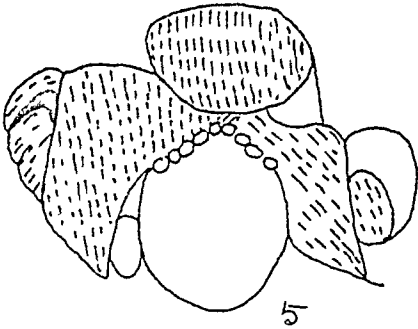
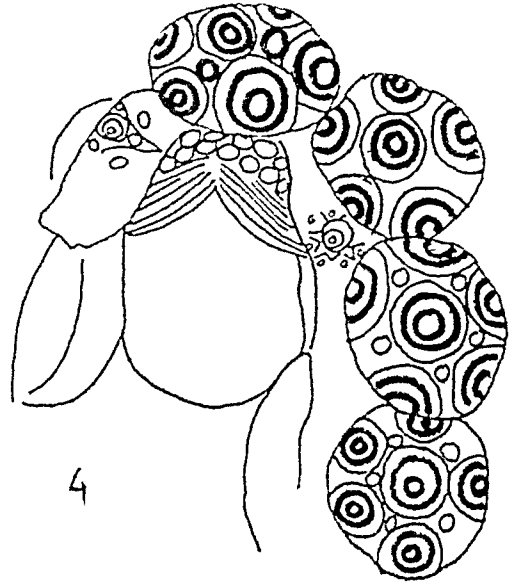
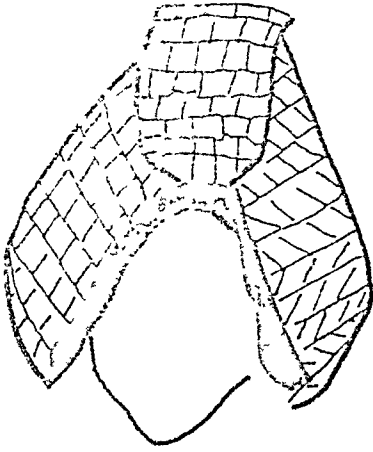
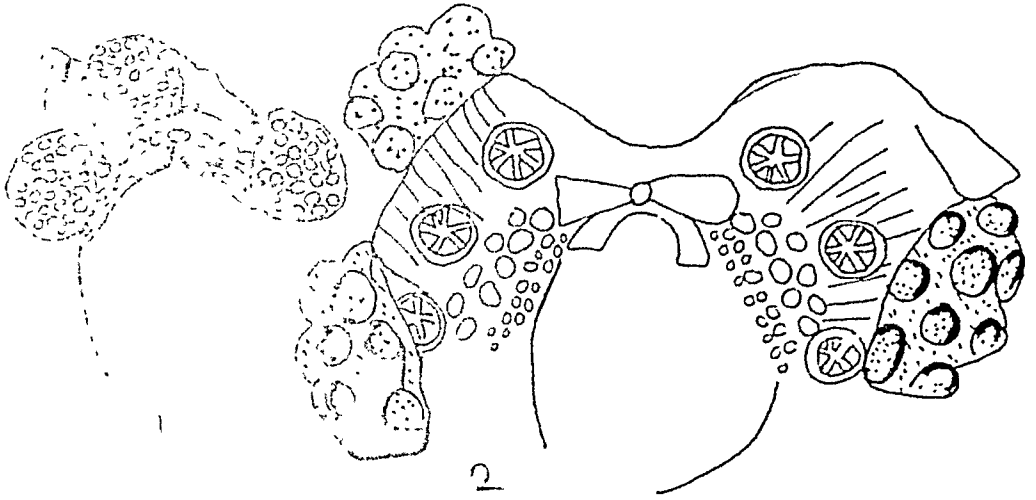
FEMALE HAIR AND HEAD-DRESSES

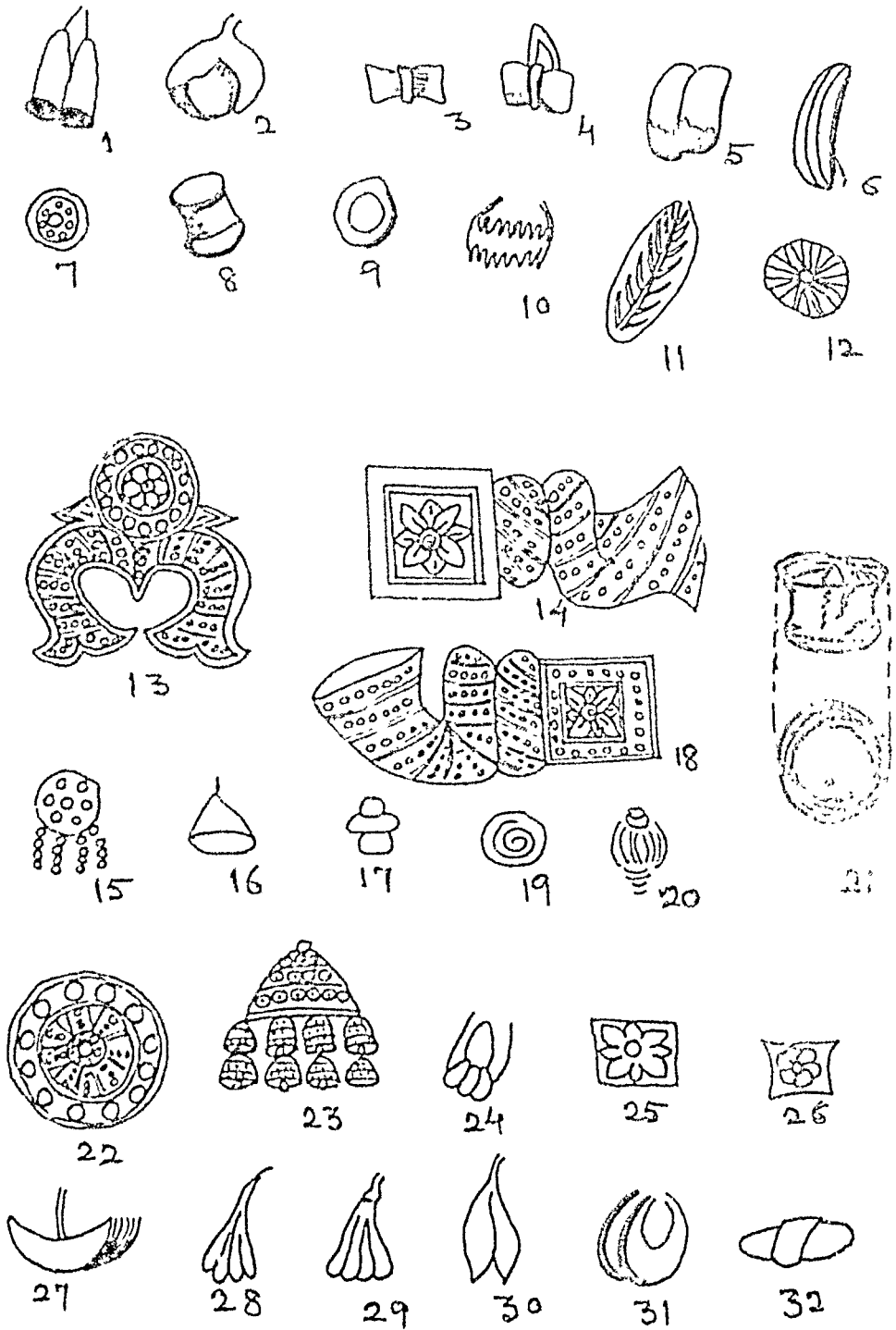


FEMALE HAIR AND HEAD-DRESSES

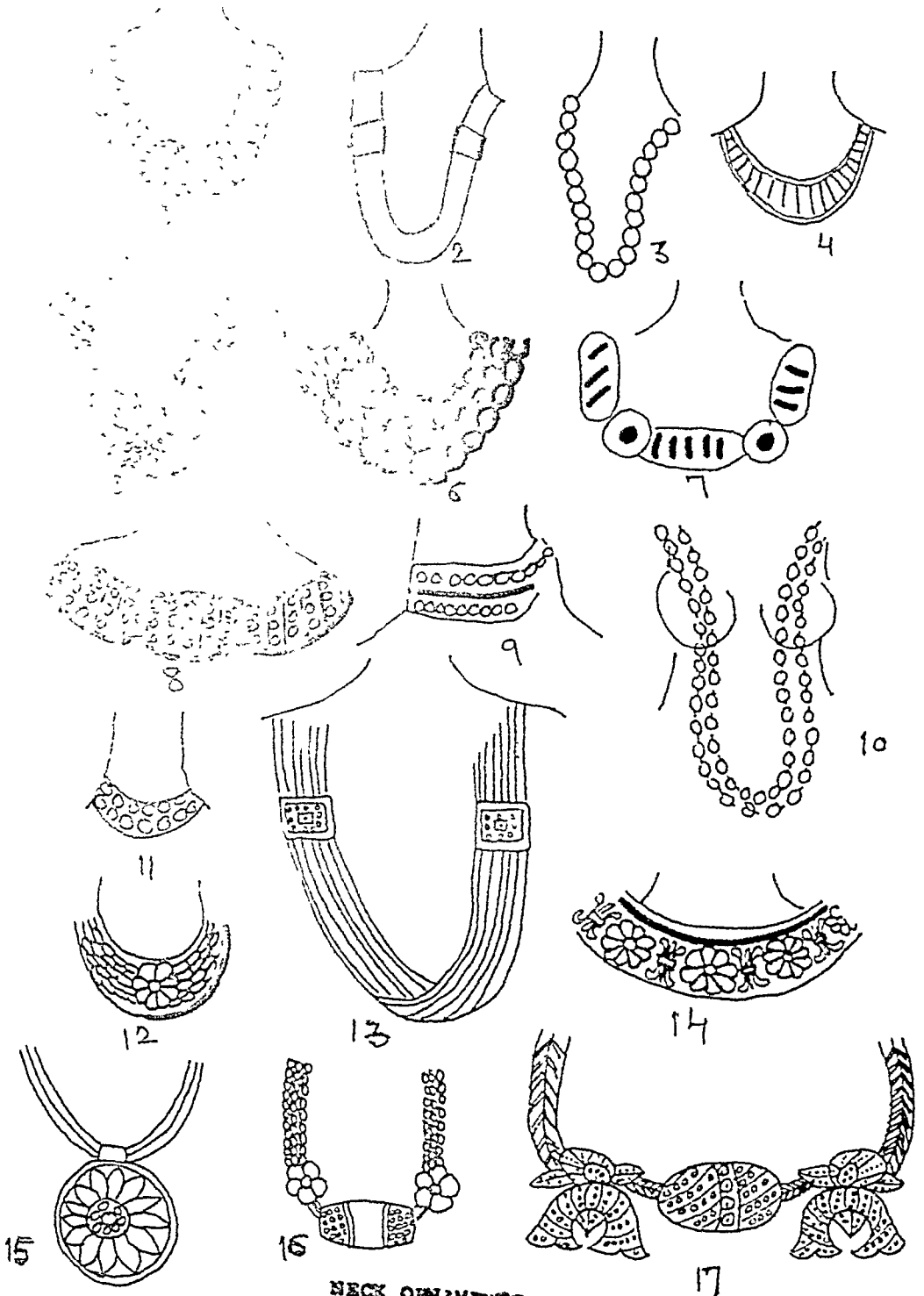


FEMALE HAIR AND HEAD-DRESSES



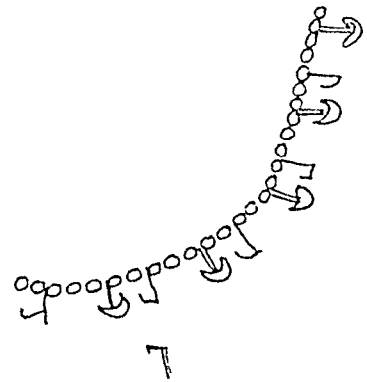
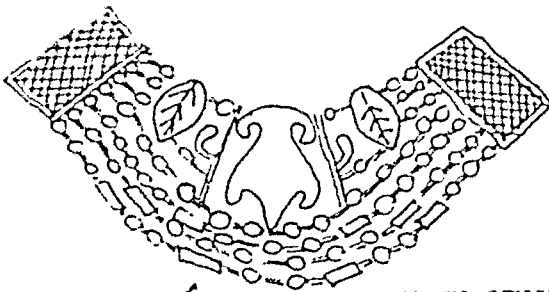
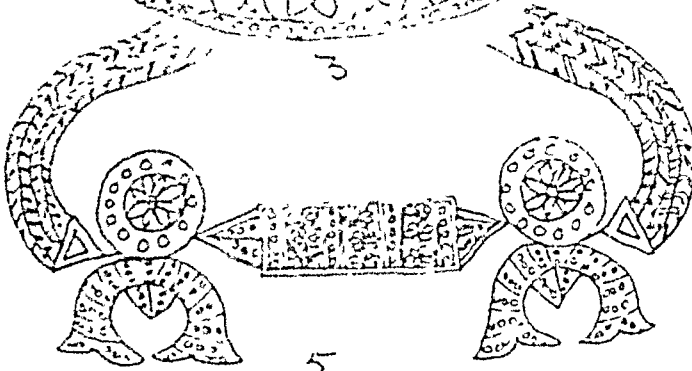
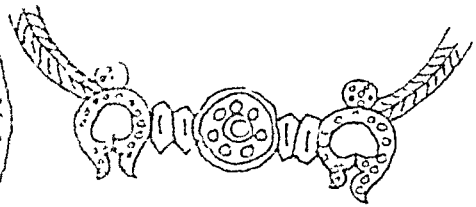
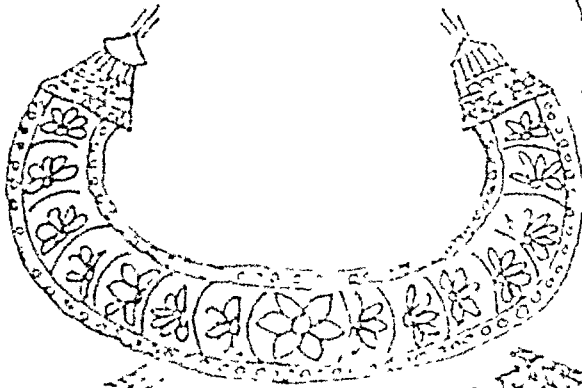
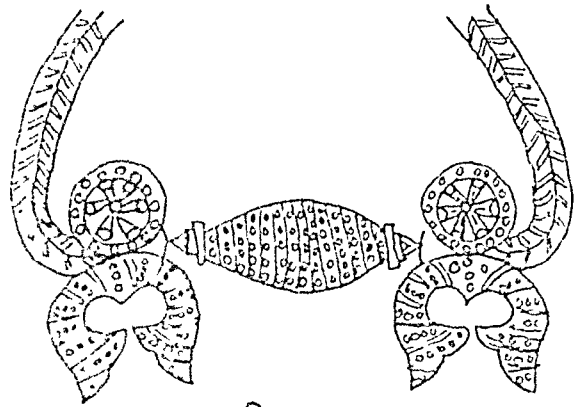
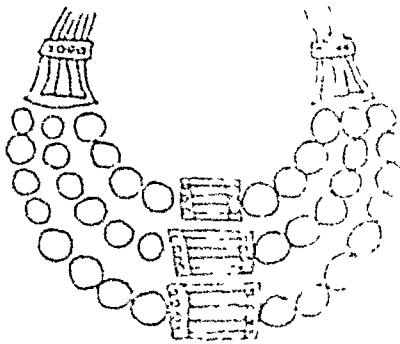


EAR ORNAMENTS

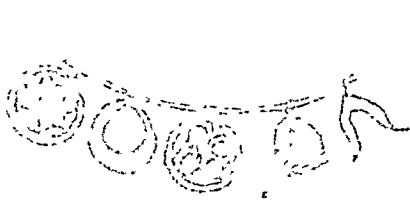


NECK ORNAMENTS

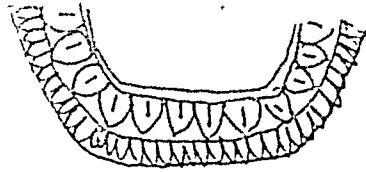
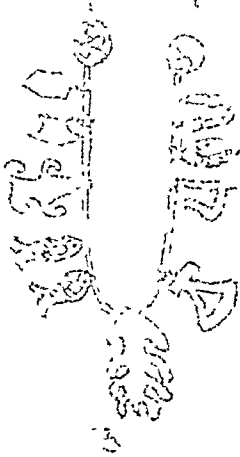




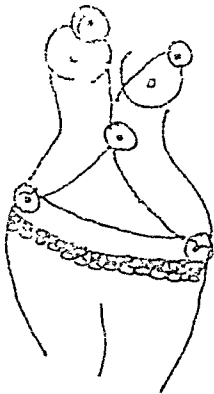
NECK ORNAMENTS



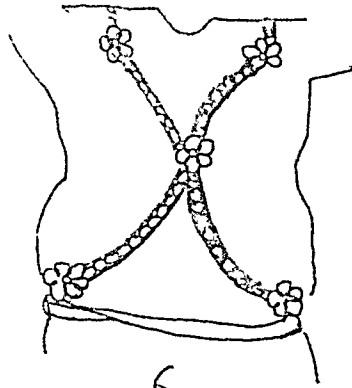
2



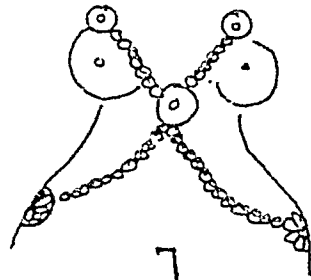
4



5

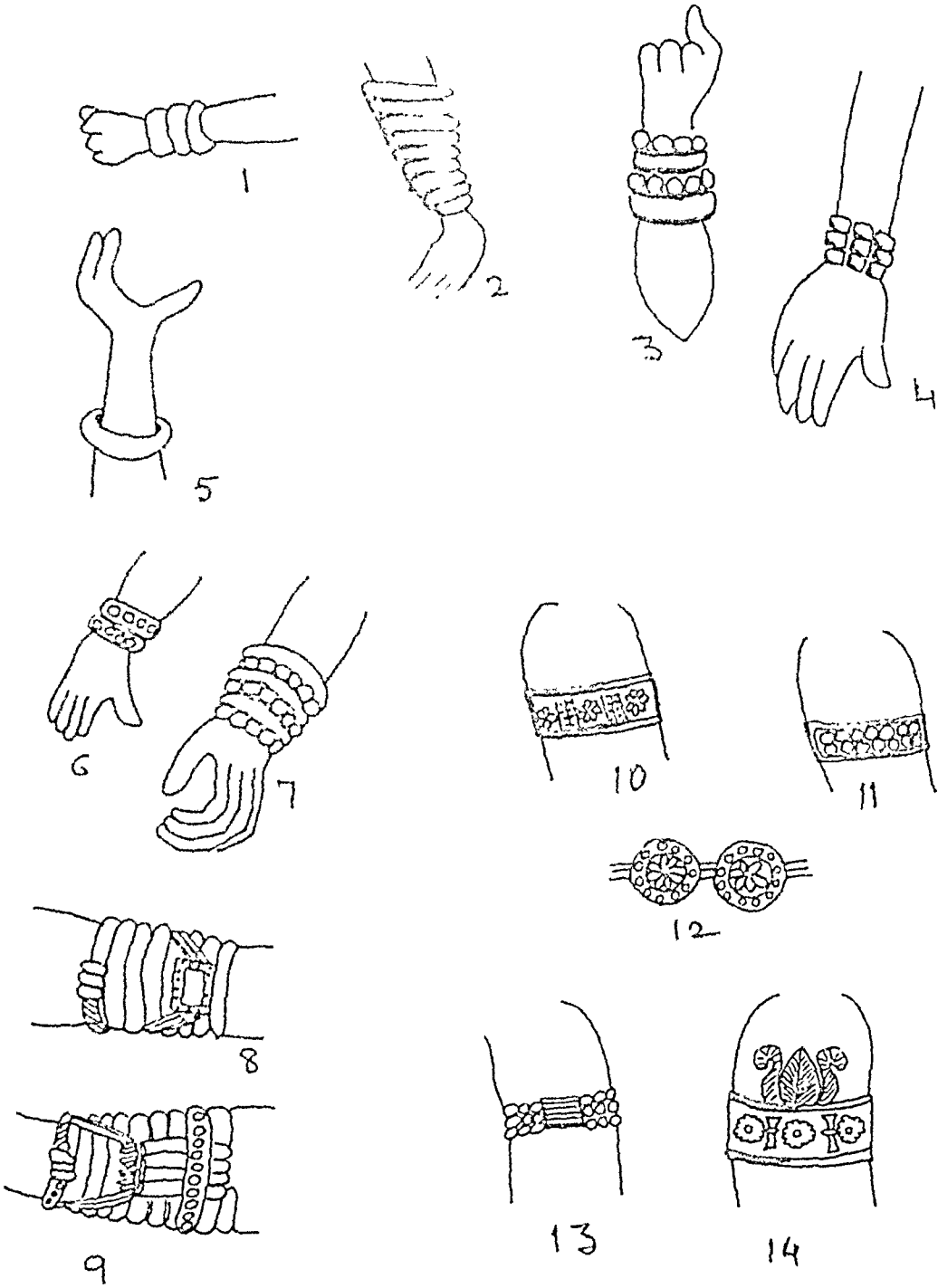


6

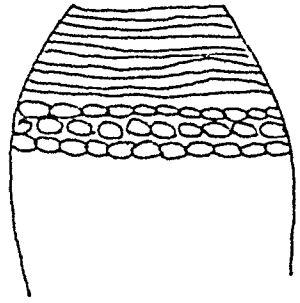
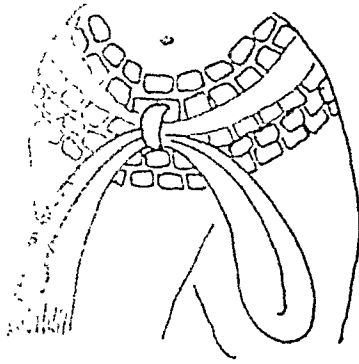


7

NECK ORNAMENTS

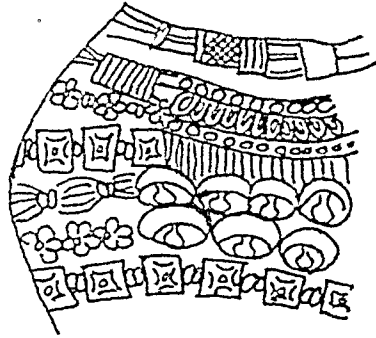
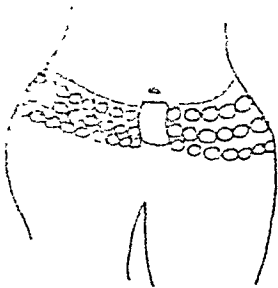


HAND ORNAMENTS



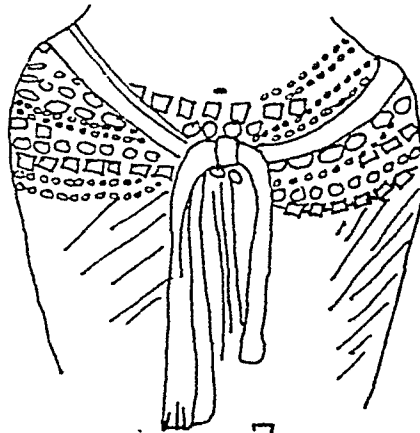
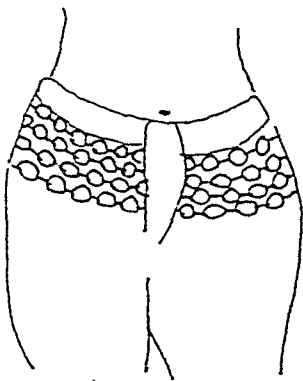
2

3



4

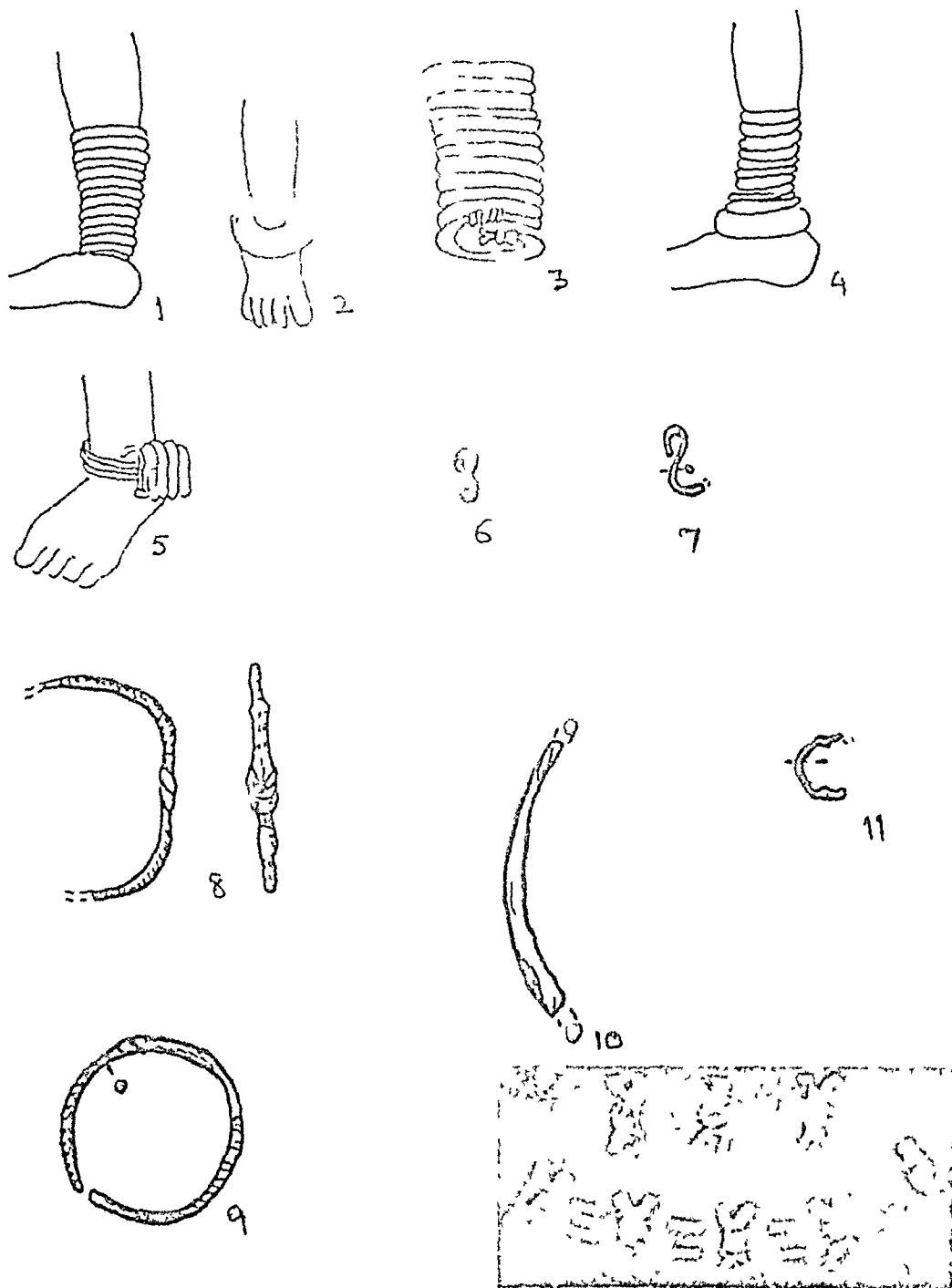
5



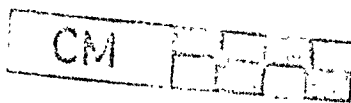
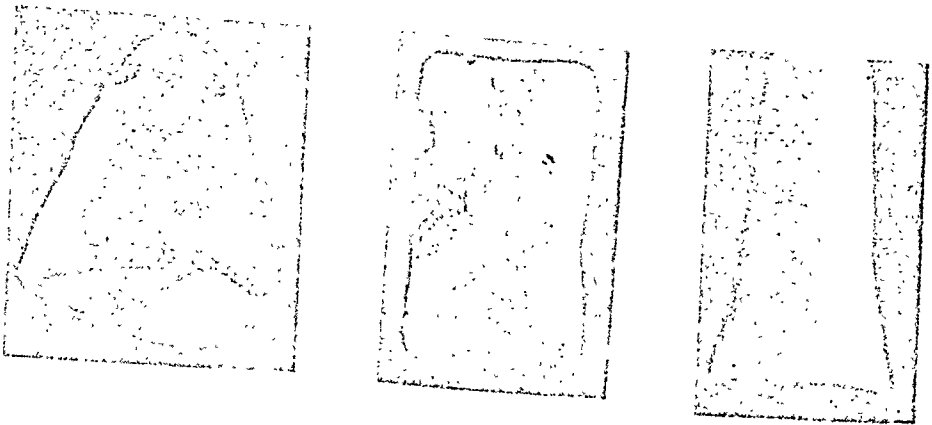
6

7

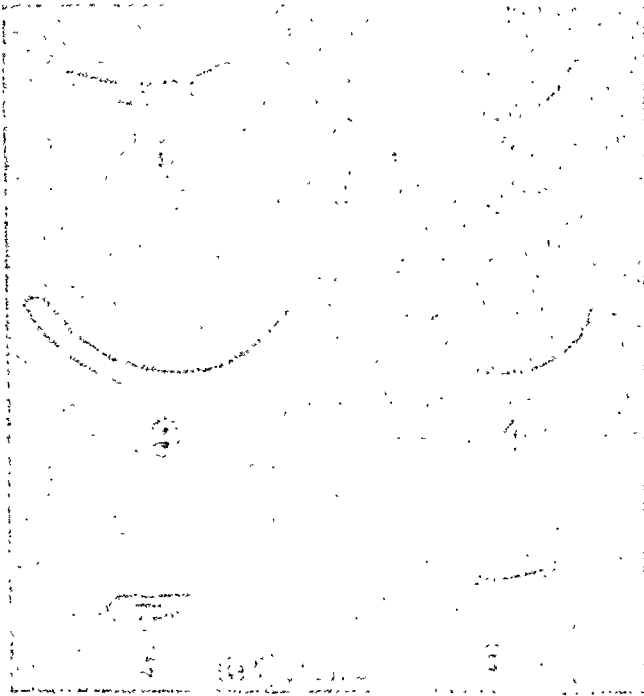
WAIST ORNAMENTS



Foot Ornaments 1-5.; & Some Ornaments found during Excavations; Copper Brooches; 6-Hastinapur (1/2); 7-Sravasti (1/2); Copper Bangles :8-9. Sravasti, Copper Anklet: 10. Atranjikhera (2/3); Copper Fingerring: 11. Atranjikhera (2/3), Goldnecklace : 12. Vaisali (4/3).



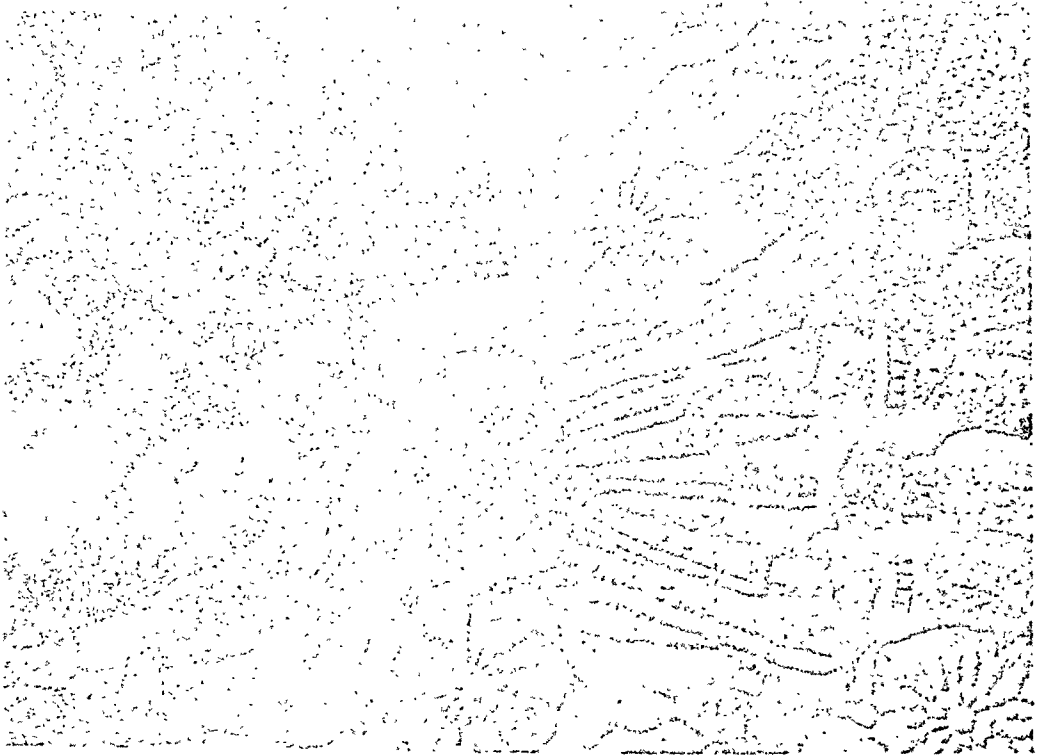
Finger Rings: 1-7. Hastinapur; Terracotta Pendants;  
8-10. Atranjikhera.



A: 1-6, Atranjkhera: Terracotta Bangles



B: 7-9 Atranjkhera



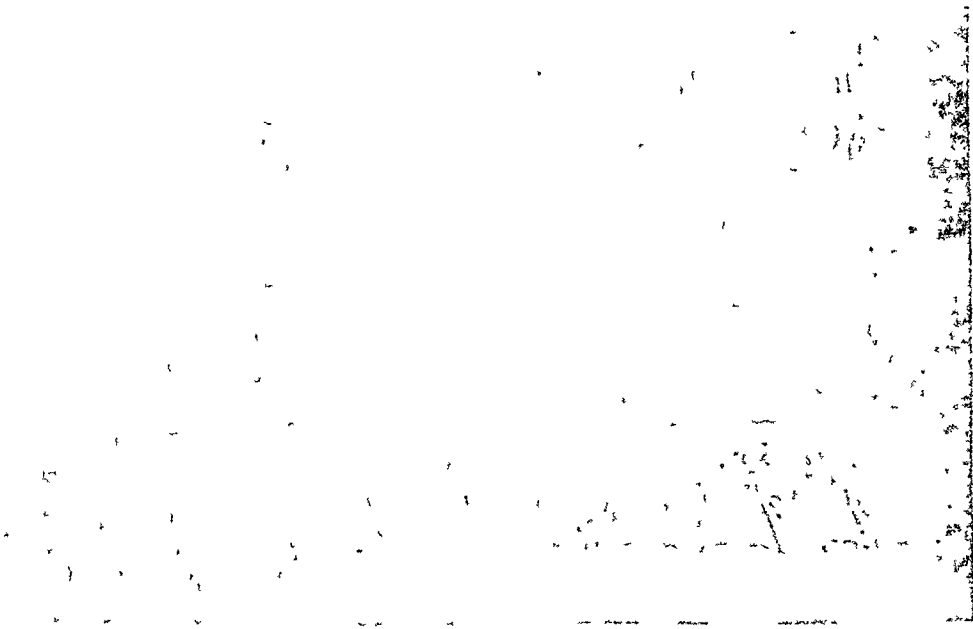
1-15, Mathura Museum; Male Figure in Stone: Wearing Uttariya, Aarmlet, Torque and Hara and holding a Chauri in His Right Hand.

B: Sanchi Stupa No. 2. showing a men wearing Cap, Tunic and Boots and holding Dagger in one Hand and Shield in the other.

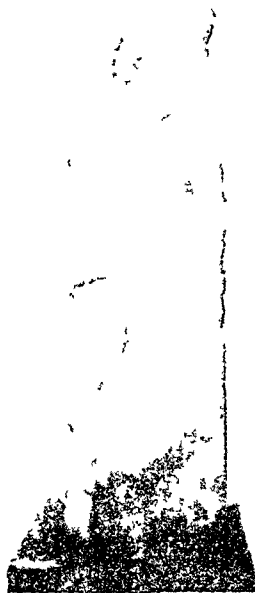


A' Terracotta Yaksha from Ahichhatra wearing Dhoti, Katiwastra and Uttariya with His Hair arranged to Left Side in one Lateral Bun. (62.252. National Museum, New Delhi).

B Sanchi Sculpture showing an Orchestra Party. All the Members Wearing Tahaband.



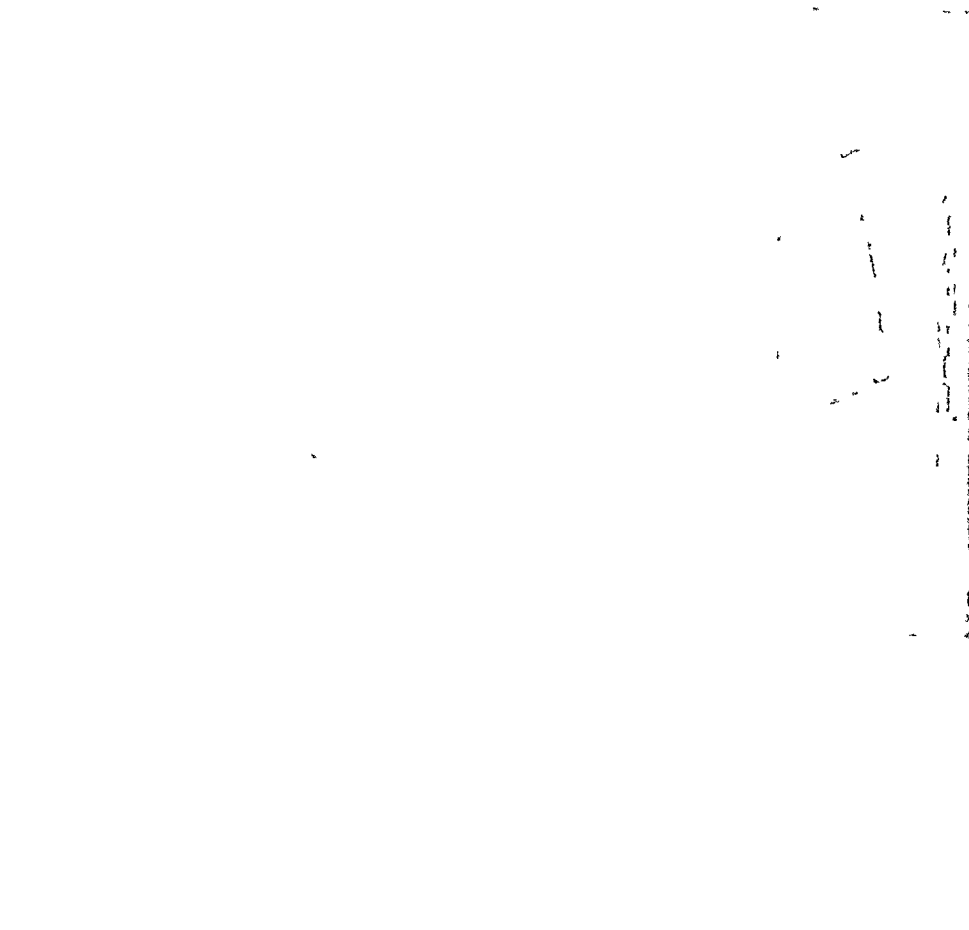
Bharnu Sculpture depicting Vasantara Jataka, showing Dress and Hair of Ascetic; Ear Ornament and Necklace on mending Creeper.



B: Bodhgaya, Bihar, (C.1st Cent. B.C.), Standing Yakshi wearing Cap, Saree, Necklace, Girdle, Bangles and Anklets.



A: Terracotta Female Wearing Skirt, A Very Elaborate Head-Dress and A Torque (Patna Museum)



B Terracotta Female Wearing Skirt, Girdle, Torque, Ear Ornament and Bracelets (Patna Museum)

113. R. C. Gaur, *op. cit.*, p. 363.
114. Cf. V. H. Jackson, *JBORS*, Vol. xiii, pt. II (June, 1927), pp. 126-127.
115. K. K. Sinha, *op. cit.*, pp. 52-55.
116. R. C. Gaur, *op. cit.*, p. 376, pl. xciii-3.
117. J. A. Page, 'Bulandibagh, near Pauna' (*ASIAR*, 1926-27), p. 139; cf. C. C. Das Gupta, *op. cit.*, p. 152.
118. 79.25/6, State Museum, Lucknow.
119. Debala Mitra, *op. cit.*, p. 34.
120. *Ibid.*, p. 39.
121. 244.66, in American Institute of Indian Studies, Varanasi.
122. 17.1303, Archaeological Museum, Mathura.
123. R. C. Majumdar, *op. cit.*, p. 517.
124. *Ibid.*, p. 474.
125. No. 79.17 in Lucknow Museum; No. 3608 in Allahabad Museum.
126. Cf. B. B. Lal in *IAR* 1970-71, pp. 8-10.
127. 62.252, National Museum, New Delhi.
128. State Museum, Lucknow.
129. State Museum, Lucknow.
130. Information from Prof. R. C. Gaur, No. 55.288, State Museum, Lucknow.
131. Indian Museum, Calcutta.
132. No. 97, Bharat Kala Bhawan, Varanasi.
133. State Museum at Lucknow.
134. 55.288, State Museum, Lucknow.
135. J. H. Marshall, *op. cit.*, (*ASIAR* 1911-12, 1915), plate xxii.9.1915.
136. State Museum, Banarsibagh, Lucknow.
137. State Museum, Lucknow (No. 57.251/15).
138. Das Gupta, *op. cit.*, p. 150.
139. Albert Grünwedel, *op. cit.*, pp. 1-26.
140. V. S. Agrawala, *op. cit.*, pp. 308-315.
141. N. G. Majumdar, Excavation at Lauriya Nandangarh (*ASIAR*, 1936-37), p. 50, 1940.
142. D. H. Spooner, 'Excavations at Basarh' (*ASIAR*, 1913-14) 1917, plate xLIV.i.
143. V. S. Agrawala, *op. cit.*, pp. 308-315.
144. A. K. Coomaraswamy, *op. cit.*, p. 15.
145. M. Taddei, *op. cit.*, p. 56.
146. A. K. Coomaraswami, *op. cit.*, pp. 26-27.
147. M. Taddei, *op. cit.*, p. 50.
148. *Ibid.*, pp. 37-40.
149. R. C. Majumdar, *op. cit.*, p. 76.
150. R. G. Basak, (ed.); *Asokan Inscriptions*, pp. 22-28.
151. R. C. Majumdar, *op. cit.*, p. 82.
152. R. G. Basak, *op. cit.*, pp. 22-28.
153. M. Taddei, *op. cit.*, pp. 37-40.
154. *Ibid.*
155. R. C. Majumdar, *op. cit.*, p. 83.
156. R. G. Basak, *op. cit.*, pp. 22-28.
157. R. C. Majumdar, *op. cit.*, p. 85.
158. *Ibid.*
159. *Ibid.*, p. 83.
160. *Ibid.*, p. 85.
161. R. G. Basak, *op. cit.*, pp. 22-28.
162. *Ibid.*
163. R. C. Majumdar, *op. cit.*, p. 84.
164. R. B.G. Basak, *op. cit.*, pp. 22-28.
165. 110.77 in American Institute of Indian Studies, Varanasi.
166. L. A. Waddell, *op. cit.*, pp. 39-40.
167. 132-10, in American Institute of Indian Studies.
168. 296.67 in *Ibid.*
169. *ASIAR*, 1912-13, pp. 77-81.
170. K. P. Jayaswal, 'Jain image of Maurya Period', *JBORS*, XXIII, 1937, pp. 130-132; cf. A. Banerjee,