RAJGIR AND ITS HINTERLAND

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TABLE OF CONTENTS

TABLE OF CONTENTS ii

LIST OF ILLUSTRATIONS viii

PREFACE xiv

CHAPTER ONE: RAJGIR AND INDIAN ARCHAEOLOGY

I Introduction 1

II Excavations of Early Historic Cities 2

III The Site of Rajgir 5

IV The Problem of Rajgir 8

V Topography and Archaeology 10

VI The Chapters 12

CHAPTER TWO: THE TEXTUAL TOPOGRAPHY OF RAJGIR

I Early History 14

II The Pāli Canon 20

III Faxian 22

IV Xuanzang 25

V Ji Ye 32

VI Dharmasvāmin 33

VII Issues Arising from the Sources 34

CHAPTER THREE: TOPOGRAPHY OF RAJGIR: A CRITICAL HISTORIOGRAPHY

I Introduction 46

II Francis Buchanan 47

III Srinivas 55

IV Markham Kittoe 55

V Alexander Cunningham 58

1. New Rajgir 59
2. Old Rajgir 60
3. Son-Bhāndār and Pippala 61
4. Maṇiyār Maṭh 64

VI A.M. Broadley 65

1. New Rajgir 66
2. Old Rajgir 67
3. Maṇiyār Maṭh 68
4. Buddhist Ruins on the Hills 69

VII James Beglar 71

VIII Mark Aurel Stein 74

IX. John Marshall 75

1. Old Rajgir 75
2. New Rajgir 77

X. VH. Jackson 78

1. Old Rajgir 78

2. Bimbisāra's Jail 81

XI Maṇiyār Maṭh Excavations 84

XII The Vaibhāra Jaina Temple 88

XIII Bimbisāra's Chariot Tracks 89

XIV A. Ghosh 90

XV The Jīvakamrāvana Excavations 92

XVI New Rajgir 93

XVII The Reconstruction of Buddhist Topography 94

XVIII Archaeological Implications 100

CHAPTER FOUR: FIELDWORK IN OLD RAJGIR

I Introduction 109

1. Aims 110

2. Methodology of the Survey 111

II Diagnostic Sherds 112

1. Black-and-Red Ware (BRW) 111

2. Black-Slipped Ware 113

3. Grey Ware 112

4. Red Ware 113

5. Northern Black Polished Ware (NBP) 113

III The Cyclopean Wall 114

1. Vipula 115

2. Vaibhāra 116

3. Ranbhumī 117

4. Ratna 118

5. Udaya 119

6. The Southern Walls 119

7. Conclusion 120

III The Inner Fortification 124

1. Mound 1 124

2. Mound 2 125

3. Other Sections of the Wall 126

4. Conclusions 128

V The Valley Floor 129

1. Ratna Road/Jail Area 129

2. Other Areas 131

3. Conclusion 132

VI New Rajgir 132

CHAPTER FIVE: GIRIAK AND ITS IMPORTANCE FOR RĀJAGṚIHA

I Introduction 132

II The Chinese Evidence 134

III Previous Surveys of Giriak 135

IV Present Survey of Giriak Hill 139

V Giriak as a Settlement Site 141

VI Giriak and the Sakri River 143

VII Giriak and the Panchana River 146

VIII Devangarh 152

CHAPTER SIX: CERAMIC CULTURE AND ANALYSIS

I Introduction 153

II. Thin-Section Analysis of Sherds from Rajgir 154

III. Scanning Electron Microscope Analysis of NBP Sherds 159

1. Previous Theories 159
2. The SEM Analysis 164
3. Conclusions 166

CHAPTER SEVEN: CONCLUSIONS AND FUTURE RESEARCH

I Rajgir 167

II Giriak 174

III The Significance of Trade to Magadha 175

IV Future Research 180

APPENDIX I: GAZETTEER OF LOCATIONS IN RĀJAGṚIHA

I The Nature of the Pāli Texts i

II Ancient Names of the Site iv

III The Rajgir Hills vii

IV Sites in Chinese Sources xvii

V Other Sites in Rajgir xxxviii

VI Related Sites in Magadha xlv

APPENDIX II: THEORY AND METHOD OF SURVEY

I. Introduction liii

II. Soil Surface liv

III. Other Conditions lv

IV. Methodology lvii

V. Sampling lviii

VI. Difficult Environments lx

VII. Intensive Survey: Northern Keos, Greece lx

VIII. Extensive Survey: Southern Mesopotamia lxii

IX. Small-Scale Survey lxii

X. Survey in India lxiii

XI. Conclusion lxv

REFERENCES

LIST OF ILLUSTRATIONS

MAPS

Map 1: Rajgir within India

Map 2: Principal cities of Madhyadeśa and the religions connected with them

Map 3: The Modern Valley and Town Area

Map 4: The north of Old Rajgir showing the mound sites, the Balarama temple and the lines of walls together with the New Rajgir area to the north

Map 5: A sketch of the Rajgir Hills, showing the putative lines of fortification walls and Giriak (from Kuraishi and Ghosh 1958 Fig. 1, p. 37).

Map 6: The relationship of Giriak and Rajgir

Map 7: Giriak and its surrounding region

Map 8: Area to the South of Rajgir along the Panchana River

Map 9: Key to Main Map of Old and New Rajgir

Map 10: Map of Faxian's travels

Map 11: Map of the journey of Xuanzang

Map 12: The 1873 Cunningham Map

Map 13: Map of Rajgir area from the 1905/06 Marshall report

FIGURES

Fig. 1: A view of the valley of Old Rajgir, looking towards Ratnagiri

Fig. 2: The valley looking south towards Sonagiri

Fig. 3: The Lakshmi-Narayan Temple at the kuṇḍs, looking northeast towards

town..

Fig. 4: New Rajgir (taken by R. Knox, Department of Oriental Antiquities, British Museum, used with permission)

Fig. 5: A portrait of Xuanzang: from the X stele at the *Xingjiao Si* Temple in Sian, Shangxi Province

Fig. 6: Son-Bhāndār Cave

Fig. 7: Pippala Stone House (from Kuraishi and Ghosh 1958, Plate II).

Fig. 8: The Cave as drawn by Kittoe and his map of Rajgir (1847, Plate 42).

Fig. 9: One of the temples on Vaibhāragiri showing the re-use of an older pillar.

Fig. 10: The "Mahāvīra Stūpa"

Fig. 11: The Kalanda Tank identified by Marshall as it looks today

Fig. 12: Maṇiyār Maṭh

Fig. 13: Maṇiyār Maṭh stuccoes (from Kuraishi 1958, Plate IV)

Fig. 14: Spouted jar similar to those used in Bengali snake cult; found at Maṇiyār Maṭh

Fig. 15: Bimbisāra's Jail; a close-up of one of the bastions and the view towards Gṛdhakūṭa

Fig. 16: The Mahābodhi Monastery (from Cunningham 1892)

Fig. 17: Pāla image of Mahāvīra from the medieval Jaina Temple on Vaibhāra

Fig. 18: The Jīvakāmrāvana: view of one of the elliptical halls

Fig. 19: Bimbisāra's Chariot Tracks

Fig. 20: Śaïkhalipi inscription near the "chariot tracks"

Fig. 21: View of the "Aśokan" stūpa to the west of the New Rajgir embankment

Fig. 22: The black stone now associated with the shrine of Sharafuddin Maneri

Fig 23: The Saptaparṇī Cave

Fig. 24: The Saptaparṇī Cave as seen from the plain to the north of Vaibhāra

Fig. 25: The modern Japanese Veṇuvana Temple at Rajgir

Fig. 26: A Japanese impression of Gṛdhakūṭa: part of a 1691 wood-block print copy of the Taima Mandala tapestry, woven near Nara, Japan in the mid-eighth century

Fig. 27: The section of the Outer Fortification adjacent to the southern pass.

Fig. 28: The Ganesh Temple that now stands on the western edge of Vipula, above a former Buddhist caityagṛha

Fig. 29: Part of the Outer Fortification on Ratnagiri

Fig. 30: A view of the Outer Fortification along Udayagiri towards Giriak

Fig. 31: View from the stūpa on Udayagiri towards Gṛdhakūṭa

Fig. 32: Part of the Outer Fortification crossing a defile on the way to Madhuban and Giriak

Fig. 33: A section of wall from the northern pass.

Fig. 34: Jāradevī Mound

Fig. 35: Jāradevī Mound looking east with Vipula in the background. The Ganesh temple is on the left-hand side, the Mahāvīra stūpa on the far left.

Fig. 36: Jāradevī Mound

Fig. 37: Part of the Jāradevī Mound indicating a stratigraphy

Fig. 38: Two stūpas on the eastern side of the road on the way to the Bangāṅga Pass

Fig. 39: The Inner Fortification's northern wall, as seen from the west

Fig. 40: The northern embankment as seen from the north.

Fig. 41: View of southern New Rajgir gate (R. Knox)

Fig. 42: Another view of the southern wall (R. Knox)

Fig. 43: The southern embankment of the New Rajgir citadel, looking eastwards towards the modern Burmese Buddhist Temple.

Fig. 44: Section of brickwork at the western gate of New Rajgir

Fig. 45: The Giriak section of the Outer Fortification

Fig. 46: The stūpa and vihāra as seen from the modern town across the river to the east of the hill

Fig. 47: The lower part of the Wild Goose Stūpa

Fig. 48: Cunningham's drawing of the Giriak Stūpa (1871, Plate XIV)

Fig. 49: The Dāktar English Mound, looking east from the hill

Fig. 50: One of the ring-wells at Giriak, at the base of the river side of the mound

Fig. 51: Bricks along the river edge at Giriak

Fig. 52: Sitamuri

Fig. 53: The temple mound at Devangarh

POTTERY ILLUSTRATIONS

Fig. 54: Coarse Wares from Jāradevī Mound

Fig. 55: Grey Ware Base, Jāradevī Mound

Fig. 56: Two khatti, one terracotta ball, Jāradevī Mound

Fig. 57: Nāga Figurine of the Śuṅga period, Jāradevī Mound

Fig. 58: Coarse ware, Jāradevī Mound

Fig. 59: Coarse ware, Jāradevī Mound

Fig. 60: Samples 1-3 (Mound 2 and Ratna Road area)

Fig. 61: Some of the finds from Mound 2

Fig. 62: Nail-headed rim bowls (Pre-Iron Age 1) from Mound 2

Fig. 63: NBP-Period Bowls from Mound 2

Fig. 64: Finds from the Ratna Road area

Fig. 65: Animal figurine from Ratna Road area

Fig. 66: Coarse ware, Ratna Road

Fig. 67: Coarse ware, Ratna Road area

Fig. 68: Selection from Ratna Road area

Fig. 69: More sherds from Ratna Road area

Fig. 70: Selection of sherds from the New Rajgir embankment

Fig. 71: Black-Slipped Ware, New Rajgir

Fig. 72: Wavy sherd, from southern side of “West Gate”, New Rajgir embankment

Fig. 73: Finds from the Dāktar English mound, Giriak

Fig. 74: Grey Ware, Dāktar English mound, Giriak

Fig. 75: Kuśāṇa-Period Spouts, Dāktar English mound, Giriak

Fig. 76: Chalcolithic coarse ware, Devangarh

Fig. 77: Piece of iron slag from Devangarh

Thin-Section Slides

Fig. 78: Slide 1 at 5x magnification

Fig 79: Slide 3 at 5x magnification

Fig. 80: Slide 4 at 5x magnification

Fig. 81: Slide 5 at 10x magnification

Fig. 82: Slide 6 at 5x magnification

Fig. 83: Slide 8 at 5x magnification

NBP Analyses

Fig. 84: Bichrome NBP (Sample 1), silver side, at 10x magnification

Fig. 85: Steel-blue NBP (Sample 2) at 10x magnification

Fig. 86: Sample 2 at 5x magnification

Fig. 87: NBP from Giriak at 10x magnification

Fig. 88: Bronze NBP (Sample 3) at 5x magnification

Fig. 89: Black-Slipped Ware from the Inner Fortification at 5x magnification

Drawings

Fig.90: Coarse ware sherd from Jāradevī Mound

Fig. 91: Top of ring-well fragment from Jāradevī Mound

Fig. 92: Drawing of Nāga Figurine from the Jāradevī Mound

Figs. 93 - 97: Ratna Road finds

Fig 98: Drawing of sherd found at West Gate of New Rajgir

Fig. 99: Drawing of Fig. 74A, from the New Rajgir embankment

Fig 100: Chalcolithic coarse ware from Devangarh

Fig. 101: Base of “Kushan Period” Red Ware dish from Devangarh

Foldout

Map 9: Main Map of Old and New Rajgir

PREFACE

Rajgir was one of the most important sites in Early Historic India. Listed in ancient sources as one of the six most important cities in India in the mid-first millennium B.C, it was the capital of the kingdom that was later to evolve into India's first empire. The understanding of the site is thus of utmost importance to Indian archaeology. This thesis can be seen as a preparatory study for the full excavation that the site deserves.

Many have helped at various stages of the project. In the Chapter, the thin-section analyses of some of the ceramics (Chapter 8) were conducted by Dr. Andrew Jones, now of the University of Southampton; and Dr, Colin Shell of the Department of Archaeology, University of Cambridge, made a number of suggestions concerning Northern Black Polished Ware production.

I would like to thank all those in Bihar who helped in various ways during the fieldwork, including the staff of the Patna Circle of the Archaeological Survey of India, the staff of Archaeology Bihar, and members of the Jayaswal Institute. I would also like to thank Dr. Ratan Kumar of Patna University for his help in the field.

In Cambridge, I received invaluable help from members of the Department of Archaeology including my supervisor, Dr. D.K. Chakrabarti, and my adviser, Dr. Augusta McMahon. The Ancient India and Iran Trust made me welcome at all times, and Dr. Raymond Allchin of the Trust gave me invaluable help, especially with regards to advice on the pottery. As my examiners both he and Dr. Vivek Nanda gave me invaluable advice on improvements to the thesis.

Note on Diacritical Marks

There is wide variation in the use of diacritical marks for South Asian languages and many archaeologists choose not to use them at all. In this thesis ancient names have been given diacriticals e.g. Rājagṛiha but it was felt application of them to modern and well-known ones (e.g. Kāśmīr rather than Kashmir) only led to confusion. However, this rule has not been followed in all cases; where a name is most often found in discussions of texts e.g. in the case of Vaibhāra at Rajgir, it was felt best to retain diacriticals throughout. For the sake of consistency, Sanskrit versions of names have been preferred to Pāli ones wherever possible. Where there is variation, Raychaudhuri (1996) and Stutley (1977) have been used as guides.

CHAPTER ONE

RAJGIR AND INDIAN ARCHAEOLOGY

I. Introduction

One of the key regions for Indian archaeology is the Gangetic valley, home to a number of cities that developed during the second urbanisation[1] in the first half of the first millennium B.C. These cities saw the evolution of political systems to state level, the creation of a trade network embracing all of North India, and features of Indian society and religion that persist to this day (cf. Maps 1, 2 and 4).

However, despite the significance of the period for Indian civilisation, no Early Historic[2] city has been adequately excavated. Most of the questions one would ask of a site – size, population, trade contacts etc. – largely remain unanswered. And, in common with other Early Historic urban sites, the number and size of excavation units has been insufficient to approach adequate coverage. The dominant methodological paradigm has been the emphasis on the trench and the section, for the recovery of cultural sequence, a paradigm introduced to India by Sir Mortimer Wheeler in the 1940s[3]. The open-area type of excavation with its greater emphasis on the plan, and

[1] The first being the Harappan in the northwest of the subcontinent in the third millennium B.C.
[2] The term has been used with a variety of chronological boundaries. Here, it refers to the period of urban and political development beginning in the seventh or eighth century B.C. and finishing with the end of the Mauryan empire c. 185 B.C.
[3] Cf. for instance Wheeler 1946

which is better suited to urban excavation, is missing[4]. Nor, with one or two exceptions, have these cities been explored using modern techniques of landscape archaeology, relating a site to its wider physical, settlement and economic context.

The situation is all the more disappointing given that archaeological work has been conducted in India since the early nineteenth century, and that the Archaeological Survey of India was founded as long ago as 1861[5]. One might compare the situation with that of the archaeology of ancient Greece, another urban civilisation with important textual tradition. Since Schliemann's excavations at Hissarlik in the 1870s, numerous urban sites have been excavated. The result has been that the archaeological record can both illustrate and test the textual one, as well as accessing information not found in the sources (MacKendrick 1981; Stillwell et al. 1976).

The situation can be illustrated using four examples of major Early Historic sites.

II Excavations of Early Historic Cities

The first of these four is Taxila (Takṣaśīlā), a node on three important trade routes linking northern India with Central Asia and the Near East. It was excavated (horizontally for much of the time) by John Marshall in the early part of last century[6]; but failed to yield much from before the period of Persian control of the area from 518

[4] A description of this approach can be found in Barker 1993, pp. 100-119; for an example of an open-area excavation at an Indian site see Howell 1995
[5] Cf. Chakrabarti 1988 for the early history of South Asian archaeology
[6] For the most comprehensive excavation at Taxila cf. Marshall 1951. However, see also Sharif 1969 and for a recent discussion of Taxila Erdosy 1987

B.C. onwards. In the Bhir Mound, Marshall was able to uncover only some crude stone structures, of the sixth and fifth centuries B.C., some glass and stone beads, and other assorted objects including nine punch-marked coins. Recently, the neighbouring Hathial mound has been identified as the location of the most ancient Taxila, with a sequence of sherds beginning with the third millennium B.C.; it was occupied immediately prior to the Bhir settlement. It is therefore likely to be the Takṣaśilā of the Buddhist texts[7] and it is here then that further excavation is badly needed to elucidate the city's origins.

At Vārāṇasī, one of the most important cities in India at the time of the Buddha, a limited area was excavated in the 1950s and '60s. The material found was mainly pottery, with a continuous sequence starting from 800 B.C., from before the introduction of Northern Black Polished Ware (NBP). The most significant find was a clay embankment running along the Ganges; but the excavation was not able to settle the debate about its function – flood protection or defence – and date.[8]

Kauśāmbī, located on the Yamuna, was the capital of the Vatsas and another key site. G.R. Sharma conducted the most important excavations here between 1949-50 and 1966-67[9]. Although a number of significant structures were exposed, including a "palace" and a rampart and moat complex, debate about some of the finds has continued, particularly over the dating of the walls, which Lal dates to the last years of the second millennium B.C. and others would put at the mid-first (Lal 1979-80). The

[7] For the discovery of the Hathial site cf. Allchin 1982; Khan 1987-88
[8] For a summary of finds cf. Narain and Roy 1976, pp. 22-28). The excavators suggested it was to protect against flooding. The case for a fortification has been made by Singh 1985, pp. 29-34
[9] cf. Sharma 1960 and 1969; Ghosh 1989

excavations did provide information on the construction sequence of this and other features of Kauśāmbī; but again, too little of the site was excavated to provide answers about the nature of its transition to urbanism or the functions of the various parts of the site.

Of the four, perhaps Pāṭaliputra (modern Patna) is the most disappointing. The most important city in India for nearly a millennium has never been extensively excavated. A series of small-scale efforts since the later nineteenth century have characterised work there. Wooden palisades that were once part of the city wall were early discoveries as was a pillared hall found at Kumrahar on the eastern side of the modern city. Ascribed to the Mauryan period and now believed to be a part of a Buddhist complex rather than a royal palace it remains the only significant structure found so far. In addition, a large number of decontextualised artefacts from construction work, including terracottas ranging from Mauryan to Gupta in style have been recovered; and some small trenches in eastern Patna have yielded NBP sherds and archaic figurines that go back to the mid-first millennium B.C. Although it has frequently been assumed that the river washed the old political and commercial centre away, there is every chance it is still waiting underneath the mound below the Patna City area[10].

Small excavations covering fractions of very large sites thus provide the basis of our knowledge of the evolution of Gangetic urbanism. Little or no objective sampling was done at these sites, and very basic questions have still to be answered, including the date at which urban civilisation developed. In the latter case much weight has been put

[10] For references cf. Waddell 1903; Altekar and Mishra 1959; Sinha and Narain 1970. A general summary is in Ghosh 1989, Vol. II, pp. 335-336

on the date of the Buddha, since the texts dealing with his lives and teachings indicate a developed urban and commercial society. The texts could of course be anachronistic; and Buddha's chronology is now hotly debated (Bechert 1991-92). But even leaving aside these considerations, the high level of social development means that urbanism must have been evolving well before his time. The ultimate answer to the question as with others must come from archaeology.

Having provided the background we can now turn to the city sites of Rajgir.

III. The Site of Rajgir

The modern town of Rajgir lies at 25º 0'N: 85º 26'E, in the eastern Indian state of Bihar, about 65 km. from the state capital Patna. (Maps 5-7). It has a population of roughly 10,000. Agriculture and herding are significant, but tourism is an important component of its economy. It is visited by Hindus, many from West Bengal, who come to take the healing baths: Jains, whose temples dot the hilltops: and Buddhists, largely from Japan and Korea, who come to visit places mentioned in the Pāli scriptures. The countryside around it is largely flat, and the jungle, present even in the nineteenth century, mostly absent. The present town lies below a range of five hills. These are part of a belt known as the Rajgir Hills that runs for c. 65 km from the area of Bodhgaya in the west to Giriak hill in the east and covers an area of c. 400 km². The belt is composed of metasedimentary quartzite sandwiched between two phyllite formations. Two phases of folding have created a structural basin[11], and thus the belt consists of two lines of hills with a thin valley lying between. This valley widens to the south of the modern

[11] Further geological information can be found in Sarkar and Mullick 1982; Das 1967.

town, forming a roughly circular area, before narrowing again on its way to Giriak. It is this circular space that is surrounded by the five hills. Until recently, these hills were well wooded, with bear, hyena and leopard inhabiting the slopes (O'Malley 1907, pp. 10-11)[12]. They are now part of the Gorathakora Protected Forest.

The archaeological site has since Cunningham's time been understood in terms of two separate areas, Old and New Rājagṛiha. The old city lies in the valley within the Rajgir Hills. Two of these, Vaibhāra and Vipula, lie on either side of the pass that gives access to this valley from the north. The site of Old Rajgir is just south of the Vipula-Vaibhāra pass and defined by a large earthen embankment known as the Inner Fortification. Along the hill slopes is a line of walls of undressed and unmortared stone, the Outer Fortification, running for a distance of approximately 35 km. Sixteen rectangular bastions lie at the northern and southern entrances to the valley and there are also a number of what appear to be watchtowers. Although shown on maps as a single entity the Outer Fortification is in fact discontinuous; and away from the valley entrances seems to be more a road system than a defensive structure.

About 1½ km. from the northern entrance is the Maṇiyār Maṭh, named after a modern Jain temple that once stood on the site, but which has cultic associations going back to the early centuries A.D., if not before. It is unclear whether it had early Jain or Buddhist affiliations; it was certainly connected with the nāga (serpent) cult, and a series of stuccoes depicting nāgas and Hindu deities show the cult was integrated with Hinduism by the mid-first millennium A.D. "Bimbisāra's Jail" nearby is another prominent

[12] The O'Malley gazetteer gives a good picture of pre-modern agriculture, natural resources and communication routes of the region.

feature. It is named after the Magadhan king who patronised the early Buddhist community and was eventually overthrown by his Ajātaśātru, his son. The “Jail” however, is probably a much later Buddhist vihāra (monastery).

About a kilometre to the northwest of Maṇiyār Maṭh lie the two Son-Bhāndār Caves at the foot of Vaibhāra. Built as an ascetic retreat, they may have been built in the Mauryan period, although this is not certain. Also on Vaibhāra are several other ancient features, including one of the watchtowers, now known as "Pippala Stone House". On the other side of Vaibhāra the "Saptaparṇī Cave" on the upper slope is widely identified with the site of the first Buddhist Council, where the canon of Buddhist “scriptures” was supposedly established.

Further to the south and east, between the Inner Fortification and Chhathāgiri hill to its northeast, are the remains of ancient elliptical structures, dating from the third and second centuries B.C., widely identified with the monastery of Jīvakamrāvana. Chhathāgiri itself has a number of Buddhist structures, and is usually considered to be identical to Gṛdhakūṭa (Vulture Peak), a hill particularly important to Mahāyāna Buddhism as it was from here that the *Lotus Sūtra* and other important texts of their tradition were supposedly preached.

New Rājagṛiha, supposedly built either by Bimbisāra or Ajataśātru, is to the north of the valley. Another large earthen embankment, about five km in extent, and forming an irregular pentagon, forms the outer defence. A stone wall, enclosing a rectangular area, and with semi-circular bastions, lies in the embankment's southwest corner. A number of other ancient features, with mainly Buddhist associations, lie scattered

around it, especially to the south. At the base of both Vaibhāra and Vipula, faults in the rock have created a series of hot and cold springs, those of Vaibhāra generally being the warmest. These are the main foci for Hindu pilgrimage to the site. But one is also sacred to Sikhs (Nanak Kuṇḍ) and Makhdūm Kuṇḍ is a pilgrimage centre for Muslims (Figs. 3-4). There are also a number of modern buildings, the most prominent of which are Jain temples on the hilltops.

The landscape is dotted with Buddhist ruins, and not merely the ones mentioned above. There are a large number of stūpas, none of which has been properly excavated and few adequately recorded. The largest, linked by pilgrim records either to Ajātaśātru or the great Buddhist emperor Aśoka, is to the west of New Rajgir. Another significant stūpa is the so-called Balarāma Temple, just outside the Inner Fortification on the northwestern side. The largest stūpa in the valley, its size and position suggest it is the Elephant Stūpa, mentioned by the pilgrims and once one of the most important Buddhist monuments in India[13]. And every hill has Buddhist remains.

Much of this Buddhist presence has been appropriated by other religions. Some of the Jain temples are on Buddhist sites, having been taken over in the eighteenth and nineteenth centuries; and a number of Buddhist images are now being worshipped as Hindu deities. Makhdūm Kuṇḍ, appropriated in the past few centuries from Hindu use, seems once to have been a Buddhist site.

IV. The Problem of Rajgir

[13]cf. the Appendix for further details.

Although it is now just a provincial centre, Rājagṛiha was for centuries one of the largest cities in the Gangetic valley. It was the capital of the kingdom of Magadha, one of the most important of India's major states, the *mahājanapadas*, of the mid-first millennium B.C. It is mentioned frequently in a number of ancient Hindu texts, including the two epics (*Rāmāyaṇa* and *Mahābhārata*) and the *Purāṇas*. The founders of two other religions, Mahāvīra and the Buddha, also spent much of their careers here. Eventually Magadha came to dominate the rest of the Gangetic valley, and to form the nucleus of the Mauryan Empire. But by this time, Rājagṛiha had been replaced as capital by Pāṭaliputra to the north. The move was made by either King Ajataśātru, or his son Udāyin. But Rājagṛiha continued to be an important centre, important enough for the Emperor Aśoka to place one of his pillars here, though no trace of it remains.

Rajgir's early importance may have been due to its role as a medial point in the movement of resources to the cities of the Gangetic plain (Chakrabarti 1975-76, p. 261). Most other major sites were located on the Ganges or other major rivers, which served as both water supply and trade and communications route. Its size and royal status would suggest that it formed a nodal point in trade routes that stretched from the Gangetic valley to the Chhotanagpur Plateau, which today is still an important area for mineral resources. Routes also connect the three nearest important cities: Pāṭaliputra; Champā, capital of the adjacent kingdom of Aṅga; and Bodhgaya, where the Buddha achieved enlightenment.

Its status makes it an especially important site for the Early Historic archaeology of India. And its connection with early Buddhist and Jain history has meant the availability of numerous textual references. But despite a number of small-scale

excavations, beginning with John Marshall's in the 1905-06 season, a large-scale excavation has never been attempted, and the main focus of investigation has been the relationship of its topography to textual references. The failure to deal with the site adequately has prompted Ghosh to characterise previous efforts as “jejeune” and unconnected to wider currents of Indian archaeology (Ghosh 1989, p. 364). A number of issues, including the site's position relative to other important sites in its region, remain largely unclear.

Any project dealing with the site should thus have three main objectives:

1. Investigation of the topography of the site, including the relation of the site to the textual records left of it.

2. Location of the site in its context by working on the trade routes which explain its existence as an urban centre so far from a large river valley.

3. A better understanding of the archaeology of the site, particularly the remains in the valley, through archaeological survey.

V Topography and Archaeology

Issues of topography have been closely connected with archaeology since the latter's beginnings, and were the focus of significant work by William Camden, John Aubrey and other English students of the sixteenth and seventeenth centuries. This topographical tradition was transferred to the Mediterranean in the early nineteenth

century by travellers such as Gell, Dodwell and Leake[14]. Their sources were principally Homer, especially the list of town and cities in the Catalogue of Ships on the *Iliad*, and the second-century AD Greek traveller Pausanias. These have remained the primary topographical sources for ancient Greece to the present day, and the number of works still dealing with problems of identification even after two centuries bear witness to both the fruitfulness and utility of such an approach[15]. But it entails a bias towards sites that are cited in the primary sources, and this in turn implies a bias towards major sites and monuments (Osborne 1987, p. 56). Recent work has broadened topographical study to include new issues. The growth of survey has allowed sites to be placed in a wider landscape, to be contextualised within larger patterns of settlement[16]. Issues of sacred landscape have emerged, in which religious monuments are seen not only as sites in themselves, but as parts of wider networks that need to be conceptualised geographically[17]. In the study of ancient space, archaeology is of course a major source, and some topographies of religion have been achieved for periods without translatable texts[18]

The example of Greek archaeology is germane to the Indian situation. The topographical enterprise has always been strong in South Asia. The richness of the textual sources regarding topographical information has allowed many identifications to be successfully made, and most of the significant sites have now been located. However, these sites need to be situated in terms of their position within communication

[14] For the general context of such travels cf. Eisner 1991, especially pp. 102-105; for examples cf. for instance Leake 1968.
[15] At random one could cite Pritchett 1965-1992, or Dakoronia 1993
[16] Cf. as one example among many Alcock 1993.
[17] For the connection of the architecture of a Greek temple with the physical landscape in which it is situated cf. Scully 1969. For the way in which temple location and its associated rituals can be related to political geography cf. de Polignac 1995.
[18] cf for instance Peatfield 1983 for Minoan Crete. Obviously, the same point could have been made for topographical work on prehistoric Europe and other regions.

and trade networks in order for their functions to be fully understood. Furthermore, a complete understanding of the landscape requires attention to religious meaning also. This is especially true of Rajgir for three reasons. Firstly, it is so large that it must be considered in terms of a landscape rather than as a single site. Secondly, this landscape is a profoundly religious one; and to ignore the sacred monuments is to ignore a large proportion of Rajgir's history. Thirdly, the materials exist for constructing a history of Rajgir's sacred topography that extends from the mid-first millennium B.C. to modern times.

VI. The Chapters

Having introduced the site of Rajgir and placed it in the context of the Early Historic archaeology of India, it is proposed to examine some of the problems it raises in the following manner. Chapter Two presents what can be gleaned from the textual sources of the ancient and medieval history of Rajgir. Both the types of information that can be derived from these sources and the latter's reliability are discussed. A gazetteer of toponyms to be found in the texts is to be found in Appendix I. Chapter Three examines the record of survey and excavation at Rajgir. The way in which this work was dominated by the topographical problematic created by the historical sources, and the general failure to deal with this problematic adequately, are pointed out.

The second part of the thesis concerns itself with a re-examination of Rajgir's archaeology based on fieldwork in 1998-99. Chapter Four deals with some of the individual monuments with which the site has become identified, and offers some new interpretations. The methodology used and its justification is contained in Appendix

II. Chapter Five situates the site in terms of the trade and communications routes that linked it with the south and east. In particular, it tries to show that the site of Giriak must be considered an integral part of the Rajgir area and demonstrates the route that linked the two. The issue of the Chhotanagpur Plateau, and its role in the provision of mineral resources to the Gangetic Valley is also raised. Chapter Six gives ceramic analyses of selected material from the survey. These consist of thin-section analysis of fine and coarse wares, and microscopic examinations of Northern Black Polished (NBP). As well as the results, an argument for their relevance to issues of trade and communications is given. Chapter Seven attempts to place the research in terms of issues of trade, urban development and Gangetic state formation.

CHAPTER TWO

THE TEXTUAL TOPOGRAPHY OF RAJGIR

I. Early History

Rājagṛiha is at the southern edge of what was once the kingdom of Magadha, a name found from the *Brāhmaṇas* onwards. When it is first mentioned, it is considered alien, outside the land of Madhyadeśa, defined as the land where the Vedic rituals are respected. But from the mid-first millennium B.C., the Gangetic valley was an integral part of Madhyadeśa. Historians have traditionally seen the spread of Aryan legend and culture to the east reflected in the story of Videgha Māthava, who followed the fire god Agni across the Sadānīrā river (the modern Gandak) to settle in the east (*Śatāpatha Brāhmaõa* 1.4.1.10).

In its account of the battle between the Pāṇḍavas and Jarāsandha, the *Mahābhārata* unequivocally places Girivrāja within the hills. When Jarāsandha defeated the alliance of kings on the battlefield "...he imprisoned the kings in his mountain corral, Girivrāja, as a lion imprisons great elephants in a cave of the Himālayas." (II.13.60-62 [2, p. 60]). It was surrounded by the five hills, with walls protecting the gaps between (II.19.2-4 [2, p. 68]). One of the hills (unnamed) acted as a gateway. Kṛṣṇa and the Pāṇḍavas went instead to the Chaityaka side, "so beloved of the Magadhans" (II.19.14 [2, p. 69]).

According to the *Rāmāyaṇa* Girivrāja was built by Vasu, the son of Kuśa, who is identified as an ascetic (I.31.1: [I, p. 84]). In the *Mahābhārata* his successor is Bṛhadrathā, whose dynasty the Barhadrathas, is the earliest recorded for the city. Jain sources attribute its beginnings to King Paseṇaī, and make it the last of a succession of cities. Khitipaiṭṭhia (Skt Kṣitipratiṣṭhita) was followed by Caṇagapura (Caṇakapura) Usabhapura (Ṛṣabhapura), founded on the same site, and Kusaggapura (Kuśāgrapura). Rāyagha was founded a short distance away. But Kusaggapura is also identified with Rāyagha, which is said elsewhere in Jain literature to follow Usabhapura (Mehta et al. 1970, pp. 105, 132, 195, 627-629, 708).

The most prominent of early rulers was Jarāsandha, a son of Bṛhadrathā, who is recorded in the *Sabhāparvan* of the *Mahābhārata*, and also in a number of *Purāṇas*, such as the *Padma, Viṣṇu* and *Bhāgavata*. All of these entries record his enmity with Kṛùõa and the Pāṇḍavas. Jarāsandha gave his two daughters in marriage to Kaṃsa of Mathurā, who fell to Kṛṣṇa. In revenge Jarāsandha won a great victory against an alliance of kings of Madhyadeśa[19], and imprisoned them in Girivrāja. Kṛṣṇa , Bhīma and Arjuna travelled there, disposed of Jarāsandha, and freed the kings. His son, Sāhadeva, replaced him, acknowledged the supremacy of Yudhiṣṭhira, and is recorded as being both a general for the Pāṇḍavas and being present at Yudhiṣṭhira's Rājasūya[20].

Purāõic dynastic lists record the Barhadrathā dynasty as lasting for a millennium until the last of the line, Ripunjāya, was overthrown. However, in one of the *Jātakas*,

[19] A region variously defined, but regarded as accepting of brāhmanical authority. Here, it probably includes northern India from the Panjab to the borders of West Bengal.
[20] A brāhmanical sacrifice signifying sacred overlordship; often translated as “coronation”.

Rājagṛiha is described as a city of Aṅga, Magadha's neighbour (*Jātaka* No. 545 [VI p.133]). This may possibly refer to a conquest by Aïga that is otherwise unrecorded, although it could just as well be an error. The Barhadrathās were supposedly replaced by the Śaiṣunāgas. The fifth in succession in this dynasty was Bimbisāra, the contemporary of the Buddha. However, Pradyota, in whose time Ripunjāya was overthrown, was also a contemporary of Bimbisāra's. Śiṣunāga made Vaiśalī his capital (the latter was conquered by Bimbisāra's successor) and his son Kālaśoka ruled in Pāṭaliputra (founded by Bimbisāra's grandson). So it is more likely the øaiùunagas were the succeeding dynasty (Raychaudhuri 1996, pp. 104-105).

Bimbisāra was probably the first of his line, since there is no consensus in the sources about his father's name. His alternative name or epithet (Seṇiya) may refer to a kṣātriya origin (Raychaudhuri 1996, p. 181). His reign seems to have been a long one, anything up to 52 years (*Mahāvaṃsa* 3.28-30 [p. 498]). He may also be said to have started Magadha's rise, since he conquered the neighbouring kingdom of Aṅga, and installed his son Ajataśātru as a sub-king there. But his reign is most notable for the activities of the Buddha and Mahāvīra. Their presence at Rājagṛiha means that there are plentiful descriptions of it during his rule and his son's.

Ajātaśātru was king for up to 32 years (*Mahāvaṃsa* 3.31-32: [p. 498]). It was under his patronage that Buddhist scriptures were first collected, at the First Buddhist Council. He also conquered part of neighbouring Kośala, and the tribal republics of the Vṛjis located in Bihar north of the Ganges. At some point during his reign he fortified the trading town of Pāṭaligrāma, sited on the south side of the Ganges, as part of his campaign against the Vṛjjis. Udāyin, either his son or grandson, moved the capital to

the town (soon known as Pāṭaliputra), certainly because of its position as a crossing-point to the north, but also perhaps because, with the conquest of northern Bihar, it was nearer the centre of the kingdom. The Purāṇas record Śiṣunāga as being at Rājagṛiha; a late Pāli text gives Vaiśalī as his capital. In any case his son Kalaśoka was based at Pāṭaliputra (Raychaudhuri 1996, pp. 104-105, 197-198).

After the departure of the kings, Rājagṛiha does not seem to have declined into insignificance; there are a number of signs of at least regional importance. Xuanzang saw a pillar, topped by an elephant capital, which was placed there by the Mauryan Emperor Aśoka (Watters 1905 II p. 162). No sign of it has yet been found, but if there was one, it implies the city was important into at least the second half of the third century B.C. After the end of the Mauryan Empire it may have been a royal capital again. The Haṭhigumpha inscription in Orissa, of a Kaliṅgan king named Khāravela, records two expeditions to Magadha. The king, eventually brought to submission, was possibly called Bṛhāspatimitra, and so a member of the local Mitra dynasty. His title was *Rājagṛha-nṛpa*, indicating he ruled from Rājagṛiha. If these invasions occurred in the latter half of the first century B.C., it could have been the centre of a local kingdom (Raychaudhuri 1996. pp. 331-336, 369-372, 644). If, however, they occurred in the early second century B.C. and Bṛhaspatimitra is identifiable with the king who ruled as far as Kauśāmbī (Kant 1971, pp. 40-42), then the kingdom would have been larger[21].

No Kuśāṇa coins have been found at Rajgir, but a recently published inscription gives strong evidence that the area was under the dynasty's rule in the early second century

[21] Kant argues the title means only king of "Magadha". While this is possible, there is no other record of the title being used in this way. At the least it suggests its holder did not rule at Pāṭaliputra.

A.D. (Sims-Williams and Cribb 1994/95, p. 78). Under the Guptas the local district (viṣaya) was named after the town, and a ninth century inscription from Nālandā shows the viṣaya was also a district under the Pālas (Sahai 1983, p. 71). However, this same inscription also shows it was within a larger unit centred on Nālandā, providing a good indication of the relative importance of the two towns.

Other inscriptions, from Rajgir or elsewhere, provide little historical material. The two most important at the site itself are a Prakrit inscription on Mathurā sandstone near Maṇiyār Maṭh, from the first or second century A.D., and a Sanskrit text from the fourth or fifth century A.D in the Son-bhāndār Cave. The first seems to be a Jain inscription, since it refers to Bimbisāra as Śrenika. The second is also Jain and refers to the ascetic Vairadeva, who inhabited the cave. From nearby Chandimau is a reference to an upāsaka of Rajgir who donated a bodhisattva image; this inscription dates to the later eleventh century[22].

The first half of the first millennium A.D. saw the development of lively interchanges between China and India, both cultural and economic[23]. The spread of Buddhism to China led to a large number of Chinese monks travelling to the region of Rajgir, especially as the nearby university of Nālandā gained an international reputation. Some of the records of these journeys are extant in a set of biographies written by Yijing (Lahiri 1995). Easily the most detailed, however, are the *Foguoji* of Faxian (c. 337-442) and the *Da Tang Xiyu Ji* of Xuanzang (c. 596-664). There is also a biography of the latter by his disciple Huili. They are later in date than the earliest Pāli and Sanskrit

[22] Discussions of these are to be found in Sahai 1983.
[23] For an account of these interchanges cf. Liu 1988.

sources, but they give a picture of Buddhist topography of the mid-first millennium A.D. Two much later, and under-utilised, sources are the descriptions of Ji Ye (tenth century) and the Tibetan monk Dharmasvāmin (1197-1264).

The Chinese pilgrims were little interested in giving details of the secular life of the town, and evidence from the Gupta period consists largely of some sculptures, most importantly the stuccoes from the Maṇiyār Maṭh site. This was a period when, so it has been argued, northern India generally was suffering from urban decline (Thakur 1981, pp. 288-289, 296; Sharma 1987, pp. 28-59). Unfortunately, knowledge of the archaeology of urban sites is still not strong enough to test this hypothesis (cf. Chapter 1) and this is just as true of Rajgir.

The location of the town at its present site by the late first millennium A.D. at the latest is confirmed archaeologically by the discovery of Pāla sculptures there (Patil 1963, p. 434). Since the Buddhist sculptures found in the area are late Pāla, it is reasonable to assume that the development of Nālandā into an international centre of Buddhist learning gave an impetus to the building of Buddhist vihāras and shrines. (Patil, p. 434). Indeed, all the sculptures discovered are of the Nālandā school, and may even have been imported from the workshop there. However, the relative paucity of sculptural remains is odd (Huntington 1984, p. 116), at least for a site one would expect to be a major one in the Buddhist hierarchy. A group of Jaina images, mostly found on Vaibhāra date to the Gupta and Pāla periods and stylistically have a somewhat separate history from the Buddhist material[24].

[24] For discussions cf. Chanda 1928 and Tiwari and Giri 1989.

The last reference to Rajgir before the Islamic period comes from the *Biography of Dharmasvāmin*; he visited Magadha in 1234-1236. He records the town as being made up of 600 houses, 400 of these brick (Roerich 1959, p. 89).

At some date a Sanskrit *mahātmya* was written in order to give cosmic significance to the hot springs, to claim that bathing in them would help wash away karma, and to give a precise order to the sequence of bathing. References to the springs go back to Pāli texts and Xuanzang also refers to them (Watters II p. 153), though he only makes reference to their healing qualities. When they became the centre of pilgrimage is unclear. But it has been argued that the creation of tīrthas was a device to increase the income of brāhmaṇas who had been supported by once-affluent towns and who now needed alternative income (Nandi 1979-80). This process began in the mid-first millennium A.D. Whether the *Rājagṛhamahātmya* is that old is unclear. Buchanan encountered a tradition amongst the brāhmaṇas that they descended from migrants from Maharashtra and South India in the fifteenth or sixteenth centuries. This migration is also mentioned in the *mahātmya*. (Buchanan 1936, pp. 202-203; Jackson 1925, p. 132). But it is possible the brāhmaṇas estimated the date wrongly, and that the pilgrimage tradition is much older.

II. The Pāli Canon

The teachings of the Buddha, supposedly codified into a canon at Rājagṛiha itself, is the source and context for Buddhist understandings of the city, which serves as a background for Buddha's life and ministry. The city is mentioned in one of three ways. The first is when a place-name is directly referred to e.g. when Bimbisāra donates the

Veṇuvana Park to the Buddhist Order, or Jīvakāmrāvana is donated by the court physician. The second is in the *nidānas* of the *Suttapiṭaka*, where the place is given as part of the framing narrative for the particular teaching, and is thus incidental. It is doubtful a genuine memory of the circumstances of the teaching's first utterance has been preserved; the *nidānas* were written later than the teachings they frame, and in both Sanskrit texts, and the Kharoṣṭhi materials excavated recently in Gandhāra, (and which are the oldest Buddhist texts to have survived), the same *nidānas* are found to be associated with different sūtras (R. Salomon pers. comm.). The third is at the beginning of the *Mahāparinibbāna Sutta*, in which the Buddha, realising he is about to leave the city, recites what seems to be a standard topographical list[25] (Dīgha Nikāya 16.3.41-43 [p. 252])

For authors and readers (or hearers) of these texts, therefore, the city was a set of place-names connected with the Buddha and his teachings; an identification was made between event and place, a scriptural topography. There was little interest here in building a precise description of the city or relating these places to each other geographically. It is unsurprising also that this Buddhist topography excludes that of other groups. When one looks at those place-names woven into Mahāvīra's biography in the Jaina sūtras one finds almost no overlap between the two. For instance, the most important place in Rajgir as far as Mahāvīra and his disciples were concerned was the park and shrine of Guṇaśīla; yet it is never mentioned in the Buddhist texts.

[25] The same names are found in two lists in the *Vinaya*; cf. Chapter Two

III. Faxian

Buddhism spread into China in the early centuries A.D. and it was at this time that the process of translating the Buddhist canon began. But by the end of the fourth century China was still in need of adequate translations of *Vinaya* texts. In 399 Faxian[26] set out for India to acquire Sanskrit copies to take home to China. He came via the trade route through Central Asia into Afghanistan and then eastwards across northern India. He arrived in Magadha c. 402 (Fig. 5).

When in India, Faxian used the local yojana when in India, although occasionally he used the Chinese li; Xuanzang used the li exclusively. Knowing what these measures represent is unfortunately difficult. There appear to have been at least two different lengths for the yojana; the longer of c. 9 miles (c. 14.5 kms.) and a shorter one of c. 4 ½ miles (c. 7 ¼ kms.). Although in earlier times, the shorter one was more frequently employed, one cannot say for certain which Faxian was using. The fact the yojana employed by Dharmasvāmin in the 1200s is c. 1 ½ km (Roerich 1959, p. xxix) makes the situation more problematic.

The li has also been historically flexible. Under the Chin and Han dynasties (221 B.C. - 220 A.D.) it stood at 415.8 metres (Dubs 1955, p. 160 n.7), but after this time variation set in, and there is no direct evidence for the lengths that Faxian or Xuanzang were using. But both Stein in Central Asia (1921, pp. 19-20) and Cunningham in India (1924,

[26] This is the spelling of his name according to the Pin-yin system of transcription. The older Wade-Giles system gives it as Fa-hsien.

pp.654-661) found that using an average of 5 li to the mile (i.e. 1 li = c. 320 metres) made Xuanzang's estimates of distance make sense.

Faxian arrived at Rajgir from the northeast. Before he arrived, he came upon a small, rocky hill by a river. At the cliff edge[27] was a south-facing "stone apartment"(Legge and Beal) or "stone chamber" (Giles). The translators cannot agree on whether it was a building or a cave[28]. According to tradition it was where Indra had brought his musician, Pañcaśikha, to play the lute for Buddha. Indra had then asked 42 questions, and inscribed them in the rock; the traces of which were still visible. A monastery (vihāra) was nearby[29].

One yojana southwest of this was the village of Nāla, where a disciple, Śāriputra, was born and attained nirvāṇa; a stūpa marked the spot[30].

A further yojana to the west was New Rājagṛiha, built by Ajataśātru. Two vihāras were located there. About 300 paces outside the west gate was a large stūpa, also built by Ajātaśātru. South of the town was the city of Bimbisāra, in a valley surrounded by five hills that seemed like the city's walls. The extent of this city Faxian measured as 5-6 li east to west and 7-8 li north to south. In the northeastern corner was the vihāra built by the royal physician, Jīvaka, in a mango grove. The translators cannot agree whether it was located in a large, curved area (Legge), in the middle of a crooked defile (Beal) or

[27] Giles has cliff top (1923, p. 49).
[28] See below for further discussion of this problem.
[29] Legge, pp. 80-81; Beal 1869, pp. 110-111; Giles 1923, pp. 48-49. The three translations differ in certain important points, which has been important for the ways in which the topography has been interpreted. All three will thus be referred to in the footnotes.
[30] Legge p. 81; Beal 1869 p. 111; Giles 1923 p. 49

at a bend in the road (Giles). The city was now deserted[31]. In fact, he states it had long been a wasteland, but that one could still see ruins[32].

Mount Gṛdhakūṭa was reached by entering the valley, keeping along the hills on the southeast[33], and ascending 15 li. It was described as the highest of the five hills. Three li before the summit was a south-facing cave where the Buddha used to meditate. Thirty paces to the northwest was the cave where the disciple Ānanda was frightened by the demon Māra Piśuna in the form of a large vulture. Buddha made a cleft in the rock, and put his arm through it to calm Ānanda; the cleft and the bird's footprints were still there. There were also a ruined hall where Buddha used to preach: a stone which Buddha's enemy, Devadatta, had thrown at him: and many caves where several hundred monks meditated[34].

Going back out again, the Kaḷanda (or Karaṇḍa) Bamboo Garden was about 300 paces away from the old city, on the west of the road; there was still an old vihāra there. North of it was the burial ground[35].

Moving around the southern mountain[36] (which he does not name), and west 300 paces, Faxian came to a "dwelling among the rocks" (Legge and Beal) or a "rock chamber"

[31] Legge pp. 81-82; Beal 1869 pp. 111-113; Giles 1923 pp. 49-50
[32] huangwu sui jiu, jizhi shang zai. Certain key passages have been retranslated and their Pin-Yin equivalents supplied by Ms. Sally Church of Wolfson College Cambridge. "Ruins" was translated in Legge by the ambiguous "foundations" (p. 84), and this seems to be common in these early editions.
[33] The "southwest" of Giles (p. 50) is probably an error.
[34] Legge pp. 82-83; Beal 1869 p. 115; Giles 1923 pp. 50-51
[35] Legge p. 84; Beal 1869 p. 117; Giles 1923 p. 51
[36] Legge has moving south along the mountain (p. 85); since the mountain has not been referred to before, it is more likely that Faxian would have given it a name, and that he would have specified what direction he was moving in, and the length of his journey before he had to go west. The sense seems to be that he went around the mountain starting from the Kalanda garden,, and then went westwards.

(Giles); this was the Pippala Cave, where the Buddha used to meditate after his midday meal[37].

Then moving west five or six li, on the north of the hill, in the shade, he found what he calls a rock chamber (G), where the Buddhist canon was compiled. Ānanda had been excluded from the assembly until he had achieved perfection, and a stūpa marked where he was shut out. On the sides of the hill were many Arhat cells/rock caves[38].

Leaving the old city on the north side he moved east for 3 li to the rock house (G - rock cave) of Devadatta. Fifty paces from it was a large, square black rock, where a bhikùu had committed suicide[39].

Faxian stayed in India until 410 and returned to China by sea, arriving there in 413. His *Record of Buddhist Countries* was written in 414 and was the most comprehensive Chinese account of India until Xuanzang's.

IV. Xuanzang

In the seventh century the need for adequate translations was still keenly felt, and so it was that Xuanzang[40] set out for India in 629. He took the same trade route through Central Asia, and crossed over to Magadha from the northwest[41] (Figs. 6-7). Unlike

[37] Legge p. 85; Beal 1869 pp. 117-118; Giles 1923 pp. 51-52
[38] Legge p. 85; Beal 1869 p. 118; Giles 1923 p. 52
[39] Legge p. 86; Beal 1869 pp. 118-119; Giles 1923 pp. 52-53
[40] His name is most often found in the secondary literature in the pre-Wade-Giles form of Hiuen-Tsang.
[41] Watters Vol. II, pp. 86-87; Beal 1906 Vol. II, pp. 82-83.

his predecessor he was more interested in studying and obtaining the philosophical texts of the Mahāyāna tradition of Buddhism, and was to spend considerable time at the university of Nālandā. Having spent 16 years away from China, Xuanzang arrived back in 645 with 650 texts, his translation of which was to provide China with 21% of its extant canon[42]. It seems he read Faxian but does not make a reference to him.

He recorded coming to Rājagṛiha from the west[43], by way of a mountain he referred to as Buddhavana, which had in its valleys the Yaṣṭivana (Bamboo Wood). In its centre was a stūpa built by Aśoka. To the southwest of the wood was a large mountain with two hot springs. Next to the springs was a stūpa where the Buddha had exercised, and six or seven li from the wood was another stūpa where he had preached for two or three months, and to which Bimbisāra had built a road 20 paces wide and two or three li long[44]. Xuanzang then travelled north along the road about 3-4 li to a lonely hill. Another 4-5 li on was a cave (Watters) or stone house (Beal) large enough to seat 1000, and at the southwest corner a cave known as the Asura's Palace. Beside it was a causeway made by Bimbisāra to reach Buddha, 10 paces wide and c. 4 li long, which was stepped[45].

Going east across Buddhavana for more than 60 li the pilgrim came to Kuśāgrapura[46], which he translated as the "city of the superior reed grass". The hills served as its outer

[42] Waley 1952, Part One is a short biography of Xuanzang; Wriggins 1996 is a recent account of his travels. The appendix in Lusthaus 2000 gives a description of all his translations.
[43] At least, according to his own account. However, here as in other instances Huili contradicts him and states that he went to Rājagṛha on an excursion from Nālandā while he was staying there (Beal 1911, p. 112). It is quite likely that Xuanzang altered his itinerary for heuristic purposes.
[44] Beal 1906, pp. 147-148
[45] Beal translates it as "wooden road" (p. 149), but since Xuanzang states that valleys were filled and rock was cut through, Watters is probably correct to translate it as a stone road (pp. 148-149).
[46] Or Kuśāgarapura.

walls. The city as a whole was c. 150 li in circuit, while the surviving foundations of the inner city's walls had a c. 30 li circuit. This would suggest that Faxian's measurements were of this inner city. There were two main entrances through the hills, to the north and the west[47].

Outside the north gate a stūpa commemorated the time Devadatta and Ajataśātru set an intoxicated elephant onto Buddha, while another stūpa to the northeast of this was where Śāriputra met Aśvajit[48], one of Buddha's first disciples, and became a follower himself. Close to this was a deep hollow (Watters) or very deep ditch (Beal) with yet another stūpa, connected with the story of Śrigupta, who tried harming Buddha with a pit of fire, then by poisoning his food[49]. Faxian also mentions these same three stories together[50], though he does not record the stūpas. The story of the taming of the elephant, Nālagiri[51], was the last of Buddha's eight miracles, and is frequently depicted in Buddhist art, so it is natural that both mention it. However, Devadatta is usually the only villain of the piece[52], and it is significant that both pilgrims involved Ajataśātru (Faxian only mentions the king); perhaps the tale had a local variant. In the second Faxian only mentions a nirgraṇṭha (Jain) rather than giving his name. The story is not found anywhere else. It is significant that these, and only these, are the stories associated with Old Rajgir; and they may have been part of local tradition.

[47] Beal, pp. 148-150
[48] Pāli "Assaji"
[49] Watters p. 150; Beal pp. 150-152
[50] Legge p. 82; Beal 1869 p. 112; Giles 1923 p. 49
[51] Also referred to as Dhanapāla
[52] Cf. *Vinaya Cullavagga* VII.3.11-12 [V pp. 273-274]

To the northeast of the pit (in a bend of the mountain), was a stūpa where Jīvaka built his vihāra. The two monks seem to be in agreement here. Its foundation walls and decayed tree roots, as well as the hollow of a dry well, were still there[53].

About 14 or 15 li northeast of the North Gate he came to Gṛdhakūṭa, which was continuous with the south side of the North Mountain and very high. Huili's biography expands on this; it is a connected sequence of ridges, with the northern peak rising above the rest like a high tower and shaped like a vulture - which is why it is called Tower/Peak of the Vulture[54]. Since Faxian had gone southeast, the direction is a puzzling one.

Here too was a road of Bimbisāra's to reach the Buddha, a "staircase" 10 paces wide and 5-6 li long. In the middle of the road were two small stūpas; one called "Dismounting the Chariot", where Bimbisāra left his chariot to walk on foot, the other "Sending Back the Crowd", where the commoners were told to stop. The summit was long from east to west, and narrow north to south. Near the cliff on its west side was a vihāra, open to the east, and with a preaching Buddha image inside; Faxian does not mention it, nor does Xuanzang mention Faxian's ruined vihāra; Watters suggests one was built on the site of the other (p. 153). To the east of the vihāra was a large stone where the Buddha used to exercise, and next to it a rock, 14 feet high and 30 paces around, the one which Devadatta had thrown at him. South of this, below the cliff was a stūpa where the Buddha had preached a key Mahāyāna sūtra, and to the south two caves: one in which the Buddha meditated, the other where Māra had frightened

[53] Beal 1906 p. 152
[54] Beal 1911, p. 114 - although in Xuanzang's own account it is because the summit is flat, and a good landing platform for vultures (cf. the entry for Gṛdhakūṭa in the Gazetteer).

Ānanda. Xuanzang also mentions that the bird tracks and the hole in the stone wall were still visible. Nearby were caves/stone houses where Śāriputra and other disciples achieved nirvāṇa. Near Śāriputra's cell was the shaft of a large, dry well[55].

To the west of the north gate is a mountain Xuanzang probably calls Vipula[56], but must mean Vaibhāra. On the northern side of the southwestern slope were once 500 hot springs; these had been reduced to a few score (Watters. 153) or about 10 (Beal p. 155), either cold or lukewarm. They were still used as healing springs. The remains of stūpas and vihāras were around them (Watters p. 153-154; Beal pp. 155-156). To the west of these springs was the Pippala Cave (Watters. 154) or stone house (Beal p. 155), where the Buddha often stayed. A passage at the back led into the Asura's Palace, in which bhikṣus practised samādhi, and some went mad with what they saw. Also on the mountain, was a stūpa, where the Buddha once preached, and where many Digambara Jains were now practising austerities (Watters. 154; Beal pp. 156-158).

Just to the left of the north gate, on the north side of the south cliff, then eastwards about 2-3 li, was the large cave where Devadatta went into samādhi; its relation to the north gate is the same as Faxian's account. Nearby was the flat rock where the bhikùu had committed suicide, but Xuanzang adds that it was stained with blood, and that a stūpa was present beside it. To the east of it was another stūpa, also marking a bhikṣu suicide (Watters. 155; Beal pp. 158-159).

[55] Watters p. 151-152; Beal 1906 pp. 152-155
[56] According to Beal the Chinese term could just as much be reconstructed as Vaibhāra (p. 155). But it could just be an error.

More than a li northwards from the north gate was the Kalanda Bamboo Park, with its original vihāra described as having stone foundations and brick walls, and opening onto the east. To the east of it was the stūpa which Ajataśātru built over his share of Buddha's relics, while at its side was another, erected over half of Ānanda's body. Nearby was a third, marking where Śāriputra, and another disciple Mudgalaputra, stayed during the "vassa" (rainy season) (Watters p. 156-159; Beal pp. 159-161).

Five or six li to the southwest of the Park, on the north side of the southern mountain, in a large bamboo wood, was a large cave/stone house, where the Buddhist canon was compiled, in front of which were the foundations of a large hall built for the monks by Ajataśātru. To the northwest of it was a stūpa built by Aśoka to mark where the Mahāsaṃghika Council was held, to collect additional teachings that would become part of the Mahāyāna collection (Watters p. 159-160; Beal pp. 161-165). Presumably this is the same as the Cheti referred to by Faxian. He places the Ānanda stūpa to the northwest of the cave.[57].

About 200 paces north of the Kalanda vihāra was the Kalanda Tank, which was waterless. Two or three li northwest of it was another Aśokan stūpa, next to which was a stone pillar topped by an elephant, and with an inscription giving the story of the stūpa (Watters p. 161-162; Beal p. 165).

[57] In fact the Ānanda story appears in biographies of the pilgrim; in one it is associated with a vision of the mythic Mount Sumeru, which in this version is where the compilation took place (Waley 1952, pp. 42-43); in his "Life" by Huili, the story is mentioned in association with the cave, but no stūpa is mentioned (Beal 1911, pp. 115-116).

To the northeast of this was "Rājagṛiha " - Xuanzang confined the name to the new city. The outer wall had been completely destroyed, but the inner wall's foundations were still there. The wall's circuit was over 20 li, and it had one gate. It was built because the old city was constantly afflicted by fire, and Bimbisāra decreed that anyone starting the next conflagration would be banished to the burial ground. When it started in the palace he abdicated in favour of his son and obeyed his own decree. Hearing of this the king of Vaiśālī invaded; and his lords built the new city around him, the citizens moving there also. "Rājagṛiha" referred to the fact that the king had been the first to live there. Xuanzang claims it was Aśoka who moved the capital from here to Pāñaliputra, and gave the city to the brāhmaṇas; it was now inhabited by 1000 brāhmaṇa families (Watters p. 162; Beal pp. 165-167). In the southwestern corner of the city were two small monasteries[58] where foreign monks stayed - probably the same ones Faxian referred to. Northeast from this was a stūpa where the elder (gṛhapati) Jyotiùka was born[59]; and outside the south gate, on the left side of the road, was a stūpa where Buddha had preached and ordained his son Rāhula (Watters p. 162-163; Beal p. 167). Huili places these stūpas together, and puts them inside the city (Beal 1911, p. 118).

Apart from the vihāras Xuanzang does not mention any other structures in the "new city"; but Huili adds that a number of high buildings remained (p. 117). A common error is to include Rajgir in a pattern of urban decline on the basis of these accounts (e.g. Sharma 1987, pp. 52-53), and the *Guide* also paints a picture of decay, with the religious monuments in ruins (Kuraishi and Ghosh 1958, p.7). But Faxian only

[58] At Rajgir as elsewhere Xuanzang reserves "vihāra" for temples; "saṅghārāmas" being used for monasteries.
[59] Beal's translation indicates it to be in a separate village (B p. 167).

describes Old Rajgir as a waste, while references to buildings, 1000 brāhmaṇa families and pilgrimages to the springs suggests Xuanzang found an active town in the seventh century. Only some of the monuments, particularly those around the springs, does he describe as ruined.

V. Ji Ye

A total of 187 Chinese pilgrims to India are recorded for the early medieval period and details of their travels have survived, principally in a compendium of 56 biographies by Yijing (Lahiri 1986). But despite references to the Rajgir area, there is little of topographical interest. The next important source is the account of Ji Ye, who visited Magadha in 964-966, and whose narrative survives in a twelfth-century encyclopaedia. Although it is very brief, it is important for two reasons. The first is that he gives directions in some detail. Secondly, if the sculptural evidence is a guide, then the late Pāla period was an important period of activity at the site, and one the earlier pilgrims were not in a position to observe. The later the date of the record, the more likely it is that monuments that are still observable were also seen by the writer. But unfortunately, although Ji Ye's text was translated into French in 1902, its relevance to the site was not appreciated.

As with his predecessors, he refers to the "Victory of the Angry Elephant Stūpa", which he places 5 li to the southeast of the town. And like Xuanzang, northeast of this stūpa is one dedicated to Śāriputra. But he places it, along with another, on top of a mountain. He omits both the fire-pit stūpa and the Jīvakāmrāvana. Crossing a ravine and climbing another mountain he found a stūpa and temple where the Seven Past Buddhas preached

the Law. He notes that half of the mountain was called Vulture Peak, and that to the north of that mountain was a stūpa marking where Śāriputra was born. The town of (Old) Rajgir was at the base of the mountain, (though the translation does not made clear the mountain is the same) and 20 hot springs lay to the north. A large monastery and ruins of the Veṇuvana Garden[60] were further to the north, and the Ānanda stūpa to the west of the Garden. In the interior or heart of Vaibhāra was the cave of the pippalas, and to the west of this cave was Ānanda's samādhi stūpa; he does not mention Saptaparṇī. In New Rajgir he refers to a monastery for Chinese monks. Since Yi Jing mentions that no such monastery was available in India in the seventh century (Lahiri, p. 49), it may be an addition to the two previously recorded. The house of Jyotiṣka, and the stūpa of a cakravartin (presumably Aśoka) to the town's west, complete the picture (Huber 1902, pp. 258-259).

VI. Dharmasvāmin

Dharmasvāmin is another monk, from Tibet, whose descriptions have not been taken into account. He was in India from 1234 to 1236, studying at Rajgir, and staying at Nālandā at a time when only two of its vihāras were functioning – at the endpoint, therefore, of Indian Buddhism. He gives just a few details of Rajgir. Veṇuvana he locates, surprisingly, on the lower north slope of the mountain to the southeast of the town (presumably Vipula). From the western slope of this mountain one could follow a path to Gṛdhakuṭa , where he saw a brick stūpa, in front of which Buddha had preached, and vihāra ruins. He also mentions the size of the town and the number of

[60] The French "vestiges" leaves open the possibility of reference to sacred relics rather than ruins, but Ji Ye would probably have referred to these as stūpas.

brick structures there. The material is mixed in with mythical stories, and some geographical quirks – for instance, placing the hot spring to the north of the town. But he is meant to have stayed there for some time; unless the whole biography is fictional[61], his information ought not to be dismissed.

VII. Issues Arising from the Sources

Xuanzang in particular was a meticulous recorder, and gave many estimates of size and distance; Faxian also gave estimates, though perhaps not as thoroughly. Both would have been prepared by China's tradition of local geographical gazetteers (Gardner 1961, p. 102); and one can arguably place Xuanzang's text within this tradition. But two important considerations have often been neglected. The first is that none was fallible. It is unknown with any of them how soon after visiting these places were the details written down, how full their original notes were, or in some cases, if they wrote anything down at all. And there is also the possibility of errors in textual transmission. So directions may be incorrect or key details lost. Often fine details, particularly of direction can be crucial, e.g. Faxian's location of Veṇuvana on the left of the path. One can only be confident when there is agreement between the sources.

Secondly, as with the canon, the focus in the accounts is on places associated with the Buddha and of interest to a Buddhist reader in China. As a result, the descriptions of the Rajgir area are actually quite poor; only a very little of what must have been at the site during their visits is recorded. Only at places like Nālandā and Bodhgaya, where

[61] Evidence for its authenticity is the inscription attributed to Buddhasena, a king mentioned by Dharmasvāmin and who was based at Bodhgaya (Sircar 1979, pp. 30-31).

most structures of interest were Buddhist, could this approach yield adequate information[62].

A résumé of their records indicates what they leave in and what they exclude:

Feature	**Faxian**	**Xuanzang**
Ajātaśātru Stūpa	Just outside the west gate of New Rajgir	To the east of the Veṇuvana garden; and associated with two smaller stūpas and a place where the Buddha paced back and forth.
Aśokan Stūpa and Pillar	The pillar was not mentioned; the stūpa may be the one attributed to Ajātaśātru i.e. directly to the west of the west gate of New Rajgir.	2-3 li to the northwest of the Kalanda Tank and a little to the southwest of New Rajgir.
Devadatta's Cave	Northeast of old city outside the hills, about 3 li east from entrance of the old city and close to the black rock.	A seemingly garbled description of the directions, but he could be agreeing with Faxian. The black rock is also associated with the cave,

[62] This is treated in more detail in Chapter Five

		and there are two stūpas in the vicinity.
Digambara Stupa	Not mentioned	On "Vipula" (Vaibhāra), marks a site where the Buddha preached; Digambara Jains occupied the area.
Elephant stūpa	Implies association with old city, but doesn't mention a stūpa, only that the place was where an elephant was made drunk in order to attack the Buddha; he attributes the action solely to Ajātaśātru.	Outside the north gate of the city with a stūpa marking the spot; he attributes the action to both Ajātaśātru and Devadatta
Gṛdhakūṭa	Southeast or southwest according to different translations, of old city. It was there that Māra changed himself into a vulture to frighten Ānanda, hence the name. Associated with the Four Past Buddhas, and the rock	Northeast from the old city about 14 or 15 li. Its name comes from its summit being a landing-place for vultures. It was the most important place in Rajgir for the Buddha. Features associated with it include a road made by Bimbisara, a brick vihāra with Buddha-

	that Devadatta threw at the Buddha is also there. Peaks are highest of the five mountains.	image, the rock that Devadatta threw at the Buddha, a stūpa marking the position at which the Buddha delivered the Lotus Sūtra. Xuanzang also mentions the Māra cave and a number of others.
Jīvaka 's Mango Grove	In the northeastern corner of the old city	Northeast from Śrīgupta's fire-pit, in a bend of the mountain wall. Ruins of the monastery and of Jīvaka's own house were present along with a stūpa
Jyotişka Stupa	Not mentioned	To the northwest of the New Rajgir vihāras; inside the town according to Huili.
Kalanda Bamboo Garden	Just north of the old city; an old vihāra there.	Over 1 li north of the old city, an old vihāra with stone foundations and brick wall.
Kalanda Tank	Not mentioned.	c. 200 paces north of the Bamboo Garden

Mahāsaṃghika Stupa	Not mentioned	An Aśokan stupa c. 20 li to the west of the one commemorating Ānanda's arhatship.
New Rajgir	Built by Ajātaśātru	Built by Bimbisāra, but also mentions it may have been built by Ajātaśātru. Calls it the Palace City.
Old Rajgir	Calls it the city of Bimbisāra and states it to be a waste.	Called Kuśāgrapura, and also refers to it as the Mountain City
Pippala Cave	On the southern mountain	To the west of the hot springs; at the back a passage into another cave called Asura's Palace.
Rāhula Stupa	Not mentioned.	On the left side of the road, outside the south gate of the New Rajgir,or inside the town according to Huili. From here to Nālandā the distance was 30 li.
Saṃgharāmas	Two saṃgharāmas inside New Rajgir	Two small saṅgharāmas that house foreign pilgrims in the southwest corner of New Rajgir (later, Ji Ye

		refers to one housing Chinese monks).
Śāriputra stupa	Associated with old city, where two major disciples, Śāriputra and Mogallāna were converted. Doesn't mention the stupa.	Northeast of the elephant stūpa; only Śāriputra is mentioned, a stūpa marked the spot. Ji Ye may place it on Vipula.
Sattaparṇī Cave	5-6 li from Pippala Cave, calls it the Cheti Cave. A stūpa was present at the site. A number of rock caves were also in the area	5-6 li southwest of the Kalanda garden, on the north side of the South Mountain. A large cave with a stūpa to the northwest of it, the stūpa marking where Ānanda became an arhat and joined the assembly.
Smāśana	2-3 li from the Kalanda Garden.	Not mentioned.
Springs	Not mentioned.	A number of stūpas and temples; they were associated especially with the Four Past Buddhas
Śrīgupta fire pit	Implies an association with old city, but does not give Śrīgupta's name, but only	Close to the Śrīgupta stūpa; the site consisted of a deep

	mentions that a nirgranṭha (Jain) made a pit for the Buddha to fall into and then offered him poisoned food. Stūpa not mentioned	hollow with a stūpa next to it.
Vassa Stūpa	Not mentioned.	Near the Ajātaśātru stūpa, it marks where Śāriputra and Mudgalaputra spent the rainy season.
Vipula Stūpa	Not mentioned.	On top of the "northern mountain"; from it Buddha looked at Magadha for days, then preached the law.

The list indicates that outside the valley, nearly all the significant sites fall between New Rajgir and the valley entrance. Within the valley, the places mentioned concentrated to the north, between Xuanzang's "North Gate", and the hills; or on the way to Gṛdhakūṭa. This is true wherever one places the North Gate or the Jīvakaramrāvana. And it seems clear that for Faxian at least the route to the mountain lay on the outskirts and the hill-slopes (Giles 1923, p. 50). Neither monk shows any sign of having ventured deep into the valley; Faxian merely mentions the old city to be a "waste" (Giles 1923 p. 50) and Xuanzang does not comment on its state at all[63]. But

[63] Apparently, bears, tigers and boars could be found in the valley until recently (Sen 1954, p. 79), disincentives to travellers if the area was already covered in scrub jungle in the first millennium.

the contemporary town is not described in detail either; the only buildings mentioned are the two monasteries that housed foreign travellers.

What the monks were recording (and this seems to be overlooked by much of the discussion on them) was Buddhist sacred geography. The landscape was monumentalised with *uddeśika,* or commemorative, stūpas[64], connecting geography with the events of Buddha's life. Non-Buddhist material was elided from their accounts, including (again) brahmanical and Jain understandings of the site. This process of selection may be compared with that of the Greek traveller Pausanias who was also engaged in the recording and construction of a sacred geography[65]. But while Pausanias was interested in local myths and customs of the regions he visited, there is little in Faxian and Xuanzang that does not derive from the mainstream textual tradition.

Nor should it be expected that the monks would represent a single, monolithic "Buddhism" – the topography would have changed over time (e.g. the building of new stūpas) and doctrinal affiliations would also have played a part. Evidence of this is the significance of Gṛdhakūṭa. Both Faxian and Xuanzang seem to have entered the valley primarily to visit Gṛdhakūṭa, as did other recorded Chinese pilgrims[66]. China had been converted to the Mahāyāna branch of Buddhism; and a number of key texts in this tradition, particularly the *Lotus Sūtra*, were supposedly preached on the mountain. It may not have been so significant for Hinayāna Buddhists. Devadatta also features prominently. On the basis of the *Lotus Sūtra* Chapter 12 (Watson 1993), Devadatta

[64] The chronology of this process is unclear. A number of important sites are mentioned by Faxian but with no mention of a stūpa – for instance, the place where Buddha calmed the elephant. It is possible that a number of these stūpas were built from the mid-first millennium onwards, a time when the nearby monastic complex of Nālandā was founded and expanded.
[65] cf. Habicht 1985; Elsner 1992; Arafat 1996
[66] for instance Yijing (Lahiri 1986 p. 97) and a Chinese ambassador (Levi 1900, pp. 320-322, 333-336)

became the symbol for hope of liberation, since even the most evil man in history was destined to achieve Buddhahood. At Rajgir he is linked with a cave, a rock and (for Xuanzang) a stūpa, and the cave is not mentioned in Pāli texts.

The Elephant Stūpa is an example of evolution over time. By the late seventh or eighth century, the list of key Buddhist pilgrimage sites had expanded from four to eight[67], with Rajgir being one of the new additions, and it is the confrontation with the maddened elephant that features as the standard symbol in iconography of the period. It became an important pilgrimage site, and lists of the eight most important stūpas include it[68]. It must have been something of a rival then in terms of its importance to Gṛdhakūṭa[69].

Dharmasvāmin shows an increasing mythologisation of events. When he visited in 1235, the Buddha's relics were firmly associated with Veṇuvana and were supposedly buried in 6 golden containers buried in the ground and protected by a spiked wheel[70]. The number of stūpas the relics seeded had grown to 10 million (Roerich 1959, pp. 78-79). And the name of the city had sprung from a sign Bimbisāra had put on his palace to stop asuras from burning it down (p. 89). Taken together, the sources demonstrate

[67] The first four sites are: Lumbinī, where the Buddha was born; Bodhgaya, where he achieved Enlightenment; Sārnāth, where he preached his first sermon; Kuśīnagara, the site of the Mahāparinirvāna. These are joined by Śrāvastī, where the Buddha defeated heretics; Sāṃkāśya, to which he descended after preaching in a heaven; Rajgir; and Vaiśālī, where a monkey offered him honey. A discussion of these eight scenes can be found in Leoshko 1993/94.

[68] The eighth-century Korean monk Huichao even describes it as one of the four most important (Yang et al 1984, p. 40).

[69] Wukong in the eighth century refers to the pilgrimage sites and seems to imply the preaching of the Lotus Sūtra on Gṛdhakūṭa was the reason for its place in the list (Lévi and Chavannes 1895, p. 358)[69]. Again, although tempting to see this in terms of two Hīnayāna vs Mahāyāna there is not enough supporting evidence, but the difference does at least draw attention to the fact that these later sources are predominantly Mahāyānist in orientation.

[70] In the Burmese tradition the six boxes came to be contained in an underground vihāra.

that sacred geography is not a static entity, but something that is contingent, with the capacity for continuous development.

The third problem is that of adequacy of translations available to archaeologists. The variants in the translations have been listed in order to give a sense of the difficulties one has in using them. All of them are old, and predate any critical edition that may exist[71]. The best for Faxian is the 1923 edition of Giles, but it lacks a critical apparatus. For Xuanzang, Beal can be unreliable and Watters (1905), provides only summaries and commentary. Key sentences (such as the reference to the Inner Fortification) are sometimes omitted. Only recently has an adequate translation been available (Rongxi 1996). A number of errors and disputes in the archaeological literature have been direct results of omissions or an infelicitous choice of words. One of the most problematic is the question of what was meant by "stone room" (*shi shi*), which both monks employ for a number of sites, including Pippala, Saptaparṇī and Devadatta's residence. The translators (who never visited the places described) have opted for a number of alternatives, including stone grotto, house, chamber, dwelling, or cave.

Kittoe was the first to attempt to relate the text to what he was finding in the field. He argued that Gṛdhakūṭa was Giriak, to the east of the valley[72], but could not find caves that would be the many stone "grottoes"[73] that meant to be there. So he concluded the term referred to a residence rather than a natural cave, and pointed to a number of cells, both of brick and stone that could be found there (1848, p. 537). Cunningham was faced with Beal's (correct) translation of Faxian's Pippala Cave and Julien's

[71] The critical edition for Xuanzang (Xianlin et al.) was only published in 1985.
[72] Cf. Chapter 7.
[73] Taken from Rémusat's French translation via Laidlay's English; cf. the discussion in Chapter Five.

(inaccurate) Pippala Stone House (i.e. *shi shi*) of Xuanzang. Noting the latter had referred to a cave at the rear of the "House", he decided this was the Pippala Cave and the House was a freestanding structure (1873, pp. 141-142). Marshall relied on Beal, who also preferred "house" in his Xuanzang edition, and on this basis not only accepted the Pippala identification, but argued that Saptaparṇī was also a building (1908, pp. 99-100). He also argued that though Gṛdhakūṭa was meant to have "stone houses", natural caves (as with Giriak) were not to be found (p. 93) – though there are, in fact, a number of them[74]. But this position has been followed by others, and is found in the *Guide*; although it accepts that Saptaparṇi was a cave, Devadatta's residence is argued to be a stone plinth (Kuraishi and Ghosh 1958, pp. 39-40). Now that every important "stone room" can be identified with a cave[75], this view is difficult to sustain.

A clue is provided by Faxian, who refers to the *shi shi* known as the Pippala Cave (*bin bo luo ku*). In this case at least room and cave are equated. But it is reasonable to ask why "stone cave" (*shi ku*) was not used in all cases. The most likely answer is that *shi shi* is roughly equivalent to the English "cell" and so it can refer to a cave that was inhabited, and may show marks of human alteration. In other sources, the term can refer to a cave, a stone box in which an image is hidden or a stone burial vault, but it does not refer to a freestanding building[76]. However, there are a number of crude stone structures built against the rock, especially on Chhaṭhāgiri, which could be described as "cells", and these too might also be covered by the term.

[74] Beglar explored some of these (1878, pp. xviii-xx).
[75] Cf. Chapter Four.
[76] Luo Chu-feng ed. 1986-1994, pp. 988-989, the translation from this source provided by Ms. Sally Church.

The construction of landscape is an important issue in its own right, and the Chinese material is of great significance in this respect. However, topographical identification of the sites mentioned in it, even if completely successful, could not come close to encapsulating the total history of the site. Remarkably, the history of survey at Rajgir was largely predicated on the assumption that it did.

CHAPTER THREE

TOPOGRAPHY OF RAJGIR: A CRITICAL HISTORIOGRAPHY

I. Introduction

The textual references, and especially the topographical descriptions of the Chinese, were to provide fruitful reference points for the fieldwork, which began in the early nineteenth century. The various identifications, made with more or less justification, have been incorporated in a site guide, the fifth and latest edition of which was published in 1958 (Kuraishi and Ghosh, 1958). The guide may be considered something of an "official list", and is certainly an influential source for visitors. If they do not read it, the signs dotted around the valley for tourists carry similar information.

The background to this "official list" is a series of attempts to describe the landscape of Rajgir, to carry out excavation work on selected sites within it, but most of all to attempt to understand its history by utilising Xuanzang and Faxian. This topographical project, which lasted for more than a century, involved even those excavating there. Those involved include some of the most significant names in the history of Indian archaeology.

Landscape is of course not merely a physical reality, but something held in memory; and in time, the memory of Buddhism was forgotten. The chronology of this forgetting and the reasons for Buddhism's decline in India are complex questions that cannot be

gone into here[77]. The latest evidence of its presence comes from the Tibetan monk Dharmasvāmin's record from the mid-1200s; although under great pressure, Buddhists were still present and teaching at Rajgir and Nālandā at that time. The survival of at least a trace, albeit absorbed by another religion, is possible in the case of the black rock and Devadatta's cave. The Sufi saint Sharafuddin Maneri (c. 1263-1381) lived near one of the kuṇḍs, and it has now become a Muslim shrine. Devadatta's cave and the black stone are part of this shrine, and the stone is an important relic within it. The "bloodstains" are now explained in terms of a tiger attacking the saint[78] (Sen 1954 p. 61); but the veneration paid to it may be a continuous tradition[79].

II. Francis Buchanan

The first European to record the site was a Jesuit priest, Joseph Tieffenthaler, who visited in the mid-eighteenth century. He has little to say, but he introduces some familiar topoi – the five hills, Jain monuments on their summits, and the hot springs (1786, p. 437). The first substantial description, however, was given by Francis Buchanan (1762-1829), who was the most significant of early surveyors of India. He joined the East India Company as a surgeon in 1794, and in 1800 started a comprehensive survey of South India that included the study of antiquities, geography and economy. He was ordered to pursue a similar work for the presidency of Bengal,

[77] Long-term causes include the gap between the heart of Buddhism (the monastery) and its lay supporters and successful competition from its brahmanical competitors for royal and popular patronage, as well as the creation of alternative philosophical systems. More immediate causes in eastern India were the persecution of Buddhists under the Senas (Verardi 1996) and the destruction of monasteries by Turkish armies when the dynasty fell in 1202.

[78] Less plausible is the argument that a stone supposedly ordered to stop in midair by the saint can be linked to the rock thrown at the Buddha by Devadatta (Niyogi 1935, p. 44)

[79] Such continuity can be found elsewhere in India. As an example, the city of Āyodhyā, has a tree that once sprouted from a twig Buddha used to clean his teeth; now, the twig is Rāma's (Bakker 1982, pp. 104-105).

which at that time included the modern Bihar, from 1807[80]. He arrived in Rajgir in January 1812.

It is important to note that before he arrived at the town, Buchanan had made an important contribution to the West's inchoate knowledge of Buddhism (Imam 1966, pp. 38-39); and that he was trying to develop a working knowledge of Buddhist iconography (e.g. Jackson 1925, p. 119). Nevertheless, Buddhism features little in his survey; rather, there is a clear focus on the Hindu and Jain uses of the site.

Near the town was a long, low mound, popularly attributed to the asura Jarāsandha, and so called "Asuren". It ran in a straight line towards the town for c 4 miles (c. 6½ km), and was c. 150 feet (c. 46 metres) wide and 12 feet (c. 4 metres) at its highest point. It acted as a dam, with the monsoon waters collecting between the mound and the hills. But he believed its main purpose was as a causeway approach to the city, and may once have been higher and narrower (Buchanan 1936, pp. 200-201).

Upon entering Rajgir he discovered the modern town to lie within large earthen ramparts, which formed an irregular pentagon. There were no outworks, but there was a ditch, which he guessed might originally have been c 100 feet (c. 30.5 metres) wide. The ditch was well defined, since its bottom was lower than the level of the surrounding fields, and planted with winter crops. He assumed the rampart to have been made of the dug earth. The space enclosed by the pentagon had a diameter of c. 1200 yards (c. 1100 metres)[81]; and he was able to walk his elephant around it in 48 minutes. The

[80] A short biography and discussion of the survey can be found in Viczіany 1986.
[81] The Martin edition incorrectly gave the measurement as 12,000 yards; Cunningham correctly surmised it was an error (1871, p. 23).

modern town lay in the northwestern corner; but surprisingly, the inhabitants were not aware of the ramparts' existence, and there was no local tradition concerning its construction. (Buchanan, pp. 198-199; Jackson 1925, p.129). The scale of subsequent erosion has meant this is the fullest description of the rampart and ditch available.

More modern fortifications lay in the southwestern corner of the pentagon, enclosing over 600 yards (c. 550 metres). The western and southern faces of these defences consisted of the earth rampart, here 30 feet (c. 9 metres) high and 60 feet (c. 18 metres) wide, which had gaps that were plugged with large, rough stones. These stones were also used to line the rampart top, probably to serve as a foundation for a brick wall, since bricks covered the surface. Semi-circular bastions were also built. The eastern and northern walls were all of stone, and had the same semi-circular parapets; but the west end of the northern wall was of brick.

Locals attributed the fort to the 16th-century Muslim ruler Sher Shah, who had been active in the area; but Buchanan felt the state of preservation, and the absence of the houses that usually cluster around the gates of such forts in North India, suggested an older date. But it could not have been contemporary with the earth rampart, since there was no sign of the ditch there. Furthermore, on the northwest and southeast sides, a ditch was cut through the rampart to prevent easy access into the fort by walking along it (Buchanan, pp. 198-199).

A number of mounds lay inside both fortifications, mostly of earth, but with some bricks and stones. A number of these were in groups centred on what appeared to be dry tanks. The largest of them were in the pentagon; one very large building was noted,

with two conical mounds on its west side. To the west of the old fort was a very high, circular mound of earth and bricks called "Gyangnananda[82]" (Fig. 25), said to be named after the hermit who built it (Buchanan, pp. 199-200). It was surrounded by an earthen rampart of similar construction to the fort, and indeed only the ditch lay between the two (Jackson, p. 132).

Moving towards the hills from the town he came upon an area of ruins with a number of stone foundations. There were also a number of bricks, and he suggested these might have been the ones used to build the Rajgir fort. Significantly, he mentions traces of a double wall running from the "north gate" ("north face of the fort" in his journal) to the gap in the hills, with a road running between them. (1936, p. 201; Jackson, p. 132). This would imply the double rampart went right through the centre of the fort; if this is true it has profound implications for how one understands the layout of New Rajgir. The problem is that if one scans the journal it is clear Buchanan confused his cardinal points on a number of occasions[83]. It is probable, then, that he meant the south face[84].

The local brāhmaṇas informed him of an important ancient king called Srenik[85], who had built a city within the valley (which they called "Hangsapumagar"[86]), and showed him the zigzag wall still visible on Ratnagiri, claiming it was his fort. But Buchanan rejected this, arguing that it could only be a road. He considered the valley to be unfit for an urban site since it was surrounded by arid rock, and a population would thus have

[82] Patil suggests Jñanānanda or Yajñānanda as possible reconstructions (1963, n. 1 p. 468), but the story it was named after an ascetic is a plausible one.
[83] Cf. the corrections made in Jackson's notes in his edition of the *Journal*
[84] Jackson, though he did not correct it in his edition of the *Journal*, assumed the south gate to be meant (1917, p. 269).
[85] It is interesting that Hindu priests were using the Jain name for Bimbisāra.
[86] Spelt by Buchanan a number of different ways, including Hansupurnagar (1925, p. 132).

been exposed to insufferable heat (Buchanan, p. 204; Jackson, p. 131). He seems not to have recognised the presence of the Inner Fortification, states explicitly that he could see no signs of a city (Jackson, p. 143). Perhaps the fact it was January, and the valley's jungle cover was thickest, helps explain this.

However, he did see the Jāradevī temple that lies on top of what is usually considered part of the Inner Fortification. He described it as a small, conical mound of earth and stone. The modern temple lay within a larger, older ruin, and the Jāradevī image he described as that of a man, with hands clenched as though boxing, and carrying serpents (Buchanan, p. 207).

A legend connected with Srenik was that he would every day give an ornament to each of his 32 wives and throw the previous day's down a well; this well was now covered by a Jain temple, though the Jain pilgrims knew nothing of the city legend (Buchanan, p. 204). This is clearly the Maṇiyār Maṭh, and the legend shows a tradition not only of something significant beneath the mound, but possibly that the circular shape of the original structure was also remembered. It must also be the "Moninag" temple he was told lay in the valley (Jackson p. 132), though he did not make the connection.

Next to the well were the ruins of a house, described as being 80 ft x 60 ft, with the walls surviving to 4-5 ft high and made of undressed stone and clay mortar. This he regarded as the home of a bandit chief (Buchanan, p. 204). It was called the "fort of Srinik" (Jackson p. 142), and it is possibly Bimbisāra's Jail.

He also found the Sonbhāndār cave (Fig. 8) and described a block of stone in its centre, with 4 standing men, each with two attendants, two "angels" (gandharvas) and two emblems (respectively, lions, horses, elephants and bulls). Since he believed the four main figures were not naked he suggested they were Buddhas (Buchanan, p. 206-207).

Near the Brahmakuṇḍa spring was "Jarāsandha's Seat" or baithak (Fig. 9), the surface of which he measured as being 79.5 x 72.75 feet (c. 24 ¼ x 22 ¼ metres). On top of it was a local Muslim saint's memorial. This, then, is the first mention of the "Pippala Stone House". Other baithaks, but of brick, were scattered further up the hill (Buchanan, p. 211).

He describes the Jains as already having temples on all five hills, though none of them was very old. Those on Vipula and Vaibhāra were visited and nothing of antiquity was found on the former. On Vaibhāra however, were about 16 small temples that were grass-covered ruins, unused by the Jains, as well as a lot of brick heaps associated with granite pillars and door lintels. There were many images scattered about or inside the temples, though only one was identified (as a Buddha) (Jackson, p. 144). He also explored a number of kuõós and reported Buddhist images at Sūryakuṇḍa, Somakuṇḍa, Brahmakuṇḍa and Saptaṛṣi (Buchanan, pp. 208-211).

Buchanan was clearly an acute observer and described for the first time most of the major monuments at Rajgir. His major contribution to topography was the description of the outer rampart of New Rājagṛiha and he was also the first to express scepticism at the existence of the Old. Much of what he saw was not reported again, including especially the traces of the double wall.

One is immediately struck by the fact that although the site was at this time known as Rāj(a)giri, and he refers to it as such a number of times in the *Journal* (Jackson 1925, p. 143) he uses the name Rājagṛiha throughout. It is probably at least partly because he had acquired a copy of the *Rājagṛhamahātmya*, and used the name he found there. Similarly, though the journal entries show he knew the modern names of the mountains, his report includes only the ones he encountered in the *Mahātmya*. One of the measures he used of the local brāhmaṇas' ignorance was the fact that although they could recite the text by heart, there was no consensus as to what names applied to which mountains (Jackson, p. 143)

That Buchanan should choose to put such weight on the text over the testimony of his informants may be explained in terms of the English topographical tradition, a tradition that since Camden (1551-1623) had attempted to match textual evidence with the landscape[87]. So when place-names differed from those found in the *Mahātmya* he considered the latter to have greater evidential value.

The survey shows that by this time the Jains had turned the mountains into a sacred pilgrimage route (*parikrāma*) and Jain temples now occupied each of the five. It is clear a number of these temples represent a reoccupation of formerly Buddhist sites. The connection between ancient and modern Jainism at this site is unclear. The Jains seem to have retreated into the Chhotanagpur Plateau during the medieval period (Tiwary 1996, pp. 175-179) and there may have been little of a continuous

[87] Cf. Chapter One.

topographical tradition[88]. The Maṇiyār Maṭh's ancient association with Jainism is unclear but the modern temple seems also to have been an appropriation. As elsewhere in India, Hindus had applied Purānic myth and narratives from the Mahābhārata to the landscape, and naturally, Jarāsandha figured prominently in this. But Bimbisāra, under his Jain title Śrenik, was still associated with the valley, again indicating some continuity from older traditions.

Topographical distinctions did occur between Jains and Hindus; for instance, the brāhmaṇa priests did not consider the hills sacred [Jackson, pp. 132, 137] and the brahmaṇas' name for the valley – Haṃsapurnagar - to name the valley (p. 142). They even had different names for the Maṇiyār Mañh (according to Kittoe Maṇiyār- kūp and Nizmile-kūp) and separate legends associated with it[89]. But there was much interaction between the two traditions; most notably in the fact that brāhmaṇa priests conducted Jain temple rituals[90] and in the use of Jain place-names for the mountains. This fluidity in the use of place-names is presumably what lay behind the ignorance as to mountain names of the *Rājagṛhamahātmya*; but Buchanan does not seem to recognise this as a challenge; the text was assumed to have a foundational status, and thus contain the single, "authentic" topography.

[88] As an example, the modern Jain pilgrimage centre of Pawāpuri, not far from Rajgir is probably not the Pawā associated with Mahāvīra, which may have been located in North Bihar (Tiwary 1996, pp. 41-50).
[89] Kittoe 1847, p. 957. Buchanan heard of Maṇināg and Nimulpuri in the valley, and took them to be separate temples (Jackson 1925, p. 132).
[90] The intermingling of religion was foreign enough to Buchanan that he seems to have considered the Hindu priests' preparedness to "take the profits of the hills" a sign of brahmanical greed (Jackson p. 143). However, the fact the priests themselves recognised a difference between the profits of hills and wells, and that they tried to minimize the religious importance of the springs to the Jains (p. 143), suggests they too were keen on making distinctions.

III. Srinivas

In 1820, a Jain employed by Colonel Colin Mackenzie, known only as "Sri-nivasia" (Wilson 1838, p. 131), came across Rājagiri as it was then known. He was the first to report in print the presence of ruins of a city in the valley, which he states spread over four miles north to south, and two miles east to west (c. 6 ½ x 3 ¼ km). His report mentions both Son-Bhāndār and Maṇiyār Maṭh, but it is chiefly of interest for its information on Jain interpretations of the site (Wilson 1825).

IV. Markham Kittoe

Buchanan's interpretation of the site was based largely on the putative role of Jarāsandha. Buchanan was not a student of ancient literature, and it was not until 1837 that Rajgir's place in Pāli texts was recognised[91]

Buddhism was placed back in the frame by James Prinsep, as editor of the *Journal of the Asiatic Society of Bengal*. In a footnote inserted into an article on Pāli texts by George Turnour, he described the identification of the Pāli *Rājagaha* with Rajmahal as the "usual supposition"; however, "*Rājagrha* of Behar (sic) is undoubtedly the right place" (Turnour 1837, p. 505). The re-connection of Buddhism with the site was thus established, and it is important to note that it was a reconnection with Buddhist texts.

Turnour was a leading figure in the initial transmission of Pāli texts to Anglophone scholarship, and the article was a translation of the account by Buddhaghoṣa of the first

[91] Cf. Chapter Five.

Buddhist Council at Rājagṛiha. At the same time knowledge of the Chinese pilgrimages was being transmitted to the West. The first translation (into French) of Faxian's narrative was made by J.P.A. Rémusat (1836). A discussion of the geographical implications of the work was issued in 1839 (Wilson 1839), but it was extracts from the translation itself that were shown to a Captain Markham Kittoe[92]. He was thus the first to try matching Faxian's text with what his own survey results, though it is clear from his article he had little success.

From 1848, Kittoe was officially employed by the East India Company to assess the antiquities of south Bihar, but he had already been active in the region in 1847. It was in that year that he visited Rajgir to compare what he saw with Faxian's descriptions – the first of many to do so.

He relocated the "Assurein", and the fortifications, which he described as a parallelogram. He accepted that it was built by Sher Shah, and recounts a local story. Apparently, Sher Shah abandoned construction after a milkmaid pointed out that the site was commanded by the hills and therefore useless against bombardment. (1847, pp. 956-957). Having inspected the "Gyangnananda" he identified it with Ajātaśātru's stūpa.

Faxian's testimony probably made Kittoe implicitly reject Buchanan's scepticism concerning the old city, the local name for which he gives as "Hansu Taur". He found the Son-Bhāndār cave, and was the first to point out that the chamber was exactly the

[92] By J.W. Laidlay (Kittoe 1847, p. 953), who was preparing a translation of the French edition into English (1848b).

same shape as those on the Barābar Hills. He noted the sockets on the outside wall for timbers and inscriptions that included śankhalipi. He recognised carvings of figures too, and mistook them for Buddhas; but the sculpted block he recognised as a Jain caumukhī[93], (p. 958). Cunningham credits him with excavation & clearing of the area (1873, p. 143), but this is not reflected in Kittoe's published work. A colleague's reference to the difficulty of clearing the "rubbish" from the site suggests there might have been a quantity of ruins (Laidlay 1848a, p. 501). The cave was apparently sacred to both Hindus and Buddhists, though this had not stopped a local landlord from damaging it with gunpowder to try to find hidden treasure (p. 958).

After briefly describing the Maṇiyār Maṭh, Kittoe then went to on to a "low ledge of laterite", that was flat enough to have been cut by masons. This was known as "Bheem Sen's" wrestling ground, a reference to the struggle between Jarāsandha and Bhīma.. On the terrace he found a number of inscriptions of different types, including śankhalipi, but also others including a human figure (Plate 49). The illustrations of the carvings are an important record because most of them have disappeared.

Two other observations are of significance, both connected with the sketch map. The map as printed (as part of Plate 42) is unclear. But Hansu Taur[94] is shown to be immediately south of the northern pass, and bounded on the west by Ranbhūmī (spelt Rung Boomi on the map) and the Nekpai Embankment to the east (Fig. 10). This is an indication of a local sense of an area bounded by the Inner Fortification; something Kittoe would have missed since the lines of the earthworks are badly misinterpreted on

[93] He gave a sketch of the chaitya (1847, Plate 42) that clearly shows two of the figures to be Jain Tīrthāïkaras in the kāyotsargamudrā (naked and standing with arms hanging loose). Buchanan's belief that they were clothed is therefore puzzling.
[94] Spelt Hansa Tanr on the map, presumably an error.

the map. But at least he noticed them (unlike Buchanan). He mentions Nekpai, and the stone wall running along Udaya. Usefully, he also mentions an earthwork running from Nekpai to Soõa, which ran across the road south between Maṇiyār Maṭh and Bimbisāra's Chariot Tracks (p. 959).

Kittoe returned in 1848 as part of his first official tour of the region. The few lines he gave to his visit (1848a, p. 540) mention an ancient Mahādeva temple away from the site, and he also mentions a "tower" near the "western gate" of the modern town's fortifications (he referred to neither in his first report). In his absence, this tower had been destroyed and "excavated" – if the latter means that brick was taken away it would indicate what the structure was made of.

Although his descriptions and sketches are important, Kittoe had little luck correlating what he saw with Faxian. The major work of topographical interpretation would have to wait for Alexander Cunningham.

V. Alexander Cunningham

The Rémusat translation had included a summary of Xuanzang's itinerary, and this had been used by William Anderson for sites in the northwest of British India (1847). However, it was recognised the edition was poor (Anderson, p. 1183), and it was to be the full translation of Julien, first of Huili's *Life* (1853) and then (more particularly) Xuanzang's own account (1857-58) that was to be the key to Cunningham's project.

Cunningham had started exploration work in the Punjab in 1839. By 1843 he was showing an interest in Faxian, and in 1848 was using Rémusat's Xuanzang itinerary. His aim was to use them for understanding ancient Buddhist geography and to locate that religion's most significant stūpas. Although he showed an awareness of the importance of Sanskrit texts, it was the two pilgrims who would structure his fieldwork in north India, first as Archaeological Surveyor to the Government of India (1861-66) and then as the first Director-General of the Archaeological Survey of India (1870-1885)[95]. Rajgir was among the first sites to be visited, in the 1861-62 season; he was to make a return visit it in 1872. He published the work in two reports (Cunningham 1871 and 1873). His *Ancient Geography of India* (1924) also came out in 1871, and represents intermediate lines of thought.

V.1 New Rajgir - On the first survey, Cunningham tested some of Buchanan's measurements for the New Rajgir fortifications. He assumed the latter had made an interior measurement of the pentagon; his own estimation of the length was 13,000 feet (3965 metres). He also made a circuit of the fortifications outside the ditches, and found there to be four roughly equal sides plus one long one, the whole measuring 14,260 feet (4349.3 metres) (1871, Vol. I, p. 23). The fort in the southwest covered an area of 2000 x 1500 feet (610 x 57.5 metres). Cunningham argued against it being significantly later in construction; it was better and more massively built, and more frequently repaired than the earthworks, and this alone would explain its better state of preservation. The ramparts could have been the town walls and the stone fort the citadel (pp 23-24). He never engaged with the reason for Buchanan's rejection of this view. Nevertheless, the Sher Shah connection was dropped from all subsequent archaeological literature.

[95] Cf. Chakrabarti 1988, pp. 48-60

Comparison of his map with that of Marshall and the *Guide* show some errors, but it remains the last attempt to plot the outer embankments. The latter are mostly gone and it is difficult to judge his accuracy[96], but it does conform in shape to a very rough pentagon.

The large "Gyangnananda" mound Cunningham believed was the Aśokan stūpa. He estimated it to be 60 feet (c. 18.3 metres) high, and described it as a hollow surrounded by a ring mound (1871, p. 24).

V.2 Old Rajgir - Cunningham also measured the dimensions of the old inner city, and compared them with the Chinese estimates. Old Rājagṛiha was meant to be five or six li north-south and seven or eight li east-west. This would mean a circuit of 24-28 li; and Xuanzang had 30 li. Estimating the li to be one sixth of a mile, and thus 30 to be five miles, Cunningham measured the Inner Fortification and found the length to be 4 5/8 miles (c. 7½ kms.) (p. 22)[97]. This was the first time that the inner city of the monks was identified with the area within the ramparts. But his drawings of them are inaccurate on both maps. In particular, he did not notice the northern line of rampart, so making the ramparts culminate in a triangle, with the North Gate at the apex. The western wall he drew as following the Sāraswatī on his first map (1871, Plate XV), but on his second realised it did not exist; he decided it must have followed the west bank instead, and marked it in as a dotted line.

[96] But cf. the discussion in Chapter Six.
[97] Marshall's survey estimated them to be 4¼ miles (6.4 kms) (Marshall 1909, p. 87).

As far as Xuanzang's estimate of the city's size was concerned to have been based on the extent of the outer walls[98]. The estimate of 150 li (25 miles or 40¼ kms.) for the length of the outer walls would only be correct if the walls extended to Giriak. This he considered unlikely – on his survey there he does not seem to have noticed the section of wall running along Giriak hill - and so he corrected the distance to 50 li (8 1/3 miles or 13 ½ kms.). This was still inaccurate, but he suggested it would almost be correct if one took ascent and descent across the slopes into account (pp. 22-23).

His treatment of the issue of the walls shows three things. One was a recognition that Outer Fortification covered a very large area. Another was a somewhat cavalier willingness to correct his primary source in order to preserve his identification. The third was a misinterpretation of what the source was manifestly telling him. He quoted the pilgrims' statements that the hills "form a girdle like the walls of a town" (Faxian) and that "high mountains…form its *exterior* walls" (Xuanzang)[99], to argue that the walls defined an outer city boundary – yet neither even mentioned a wall, only that the city was defined by the mountains. This error has been perpetuated ever since, and is indeed the origin of the present "Inner" and "Outer Fortification".

V.3 Son-Bhāndār and Pippala - At the Son-Bhāndār Cave, he made a thorough description for the first time, and recognised a second, adjacent cave that had suffered most damage from the landlord. The entire scarp was about 100 yards (c. 30.5 metres) long at the foot of Vaibhāra. It was smoothed at the western end to a height of 19 feet (c. 5.8 metres), and the rock in front had been cut away to form a level terrace 90 feet

[98] This was incorrect; cf. below.
[99] Both passages are taken from Cunningham 1924, p. 532.

(c. 27.5 metres) long and more than 30 feet (over 9 metres) broad. Son-Bhāndār cave, which he translated as Treasury of Gold was measured at 34 x 17x 11½ feet (10.37 x 5.19 x 3.6 metres). The cave adjacent was 22½ x 17 feet (6.9 x 5.19 metres). It had a chiselled interior surface, a pointed-arch roof, a window and a single door, with some inscriptions on the jambs. In the main inscription was what he interpreted as a reference to its being an auspicious cave and where Buddha had meditated after his midday meal. He, as Kittoe had done, noticed the socket holes bored into the rock-face, and interpreted these to indicate a building had once covered both cave entrances (pp. 24-25). In his first survey he identified it with the Pippala Cave (1871, p. 21); in the second with Saptaparṇī (1873, pp. 141-143)[100].

Since then, it has also been discovered that the eastern cave had a brick superstructure, to which led a flight of rock-cut stairs. This cave is now badly ruined, due, so Cunningham believed, to local greed. However, the treasure is meant to be behind the western cave, and the *Guide* argues the collapse was due to the softness of the rock (Kuraishi and Ghosh 1958, p. 26). In front of the second cave is a brick pavement that was first described by Broadley (1872b, p. 242) though whether it was associated with the verandah, as assumed by the *Guide*, has not been sufficiently demonstrated. The east cave also has a row of six carvings of Jinas, that can be assigned to the early Gupta period. Two indistinct carvings remain in the western cave and its caumukhī with images of the first four tīrthaṅkaras is Pāla in date, and (like the Jina carvings) belongs to the Digambara tradition[101]. Of the various short inscriptions, including śaïkhalipi, the only readable one was that found by Cunningham; connected with the Jain

[100] Cf. the discussion on the Sattapaṇṇi Cave in Chapter Four.
[101] A discussion of the carvings can be found in Misra 1974, pp. 123-124

Vairadeva. The inscription dates to the fourth or fifth century AD. A Gupta-period image of Viṣṇu riding Garuḍa was found in the eastern cave, measuring 1.06 x 0.9 of a metre and appearing to be part of the debris fallen from above the entrance to the upper level, but this is the only non-Jain artefact found in the caves.

The *Guide* argues that the caves were built by Vairadeva, but this is based on faulty translation. In fact, all it states is that Vairadeva achieved mokṣa in the cave, which is described as auspicious and associated with asceticism (Sahai 1983, p. 38). Aurel Stein, who visited the cave in 1899[102], was the first to point out that the ceiling of the of Son-Bhāndār was highly polished (reminiscent of Mauryan polish), and he also compared it to the Barābar Caves to the west of Rajgir that were excavated in the third century B.C. (1901, p. 58). The verandah in front of the earlier cave fits both with the textual reference to a hall outside the Saptaparṇa Cave, and the evidence for platforms built in front of natural caves seen at a number of places in the Rajgir area[103]. The sloping door jambs have been attributed to the preservation of a feature of wooden architecture, which also suggests an early date[104]. But it is much cruder than the Barābar examples, lacking for instance an elaborate entrance, and this crudeness of Son-Bhāndār has led to the suggestion that it predates the Barābar Caves (Allchin et. al. p. 247). One can suggest a sequence beginning with unaltered natural caves and proceeding via Son-Bhāndār to the more elaborate rock-cut examples.

The "Vaiṣṇava Cave" next to it is quite different in construction and is probably later; given the dates of the carvings it may well be associated with Vairadeva or the group

[102] Cf. Section VIII.
[103] Cf. the Sattapaṇṇi discussion.
[104] Mitra 1974, p. 71. But he is wrong to attribute the sockets to door leaves, since they extend well beyond the door area.

to which he belonged. The Viṣṇu over the door represents a change of "ownership" of one or both these caves, also in the Gupta period, and since the sculpture seems to have been built into the entrance, the brick superstructure may be slightly later than the cave beneath it.

In *Ancient Geography*, Cunningham was to change the location of the Pippala Cave to an unspecified location somewhere on Ratnagiri (1924, p. 531). But in 1872, he transferred it to the Jarāsandha's Seat first described by Buchanan. Although he knew Faxian had called it a cave, he accepted the current translation of Xuanzang's phrase as "stone house". The Asura's palace behind it Cunningham believed was a cave behind Pippala, which had a flight of steps and measured c. 40x30 feet (c. 12 x 10 metres).

Absent from the text, but on a map published in 1873, was another cave on the slope of Vipula. This he placed as Devadatta's House (Fig. 13).

V.4 Maṇiyār Maṭh - The Maṇiyār Maṭh mound he described as a stūpa, being made up largely of brick, and standing nearly 20 feet (c. 6 metres) high; the temple itself was built only in 1780. He dug into the mound and found at its core a well filled with rubbish, around which was an outer wall six feet (1.83 metres) thick, and a long drain. A passage gave entrance through both walls. On the north side were some steps and a small room with brick walls, pillars and some slab sculptures. In the well was a statue of the tīrthāṅkara Parśvanātha[105], a 4-armed figure seated on a bull that he guessed to be Mahādeva, and what he interpreted to be a Buddhist sculpture, of an ascetic Buddha with two attendants, surmounting the goddess Māyā on a couch. The room had a

[105] This is clear from the presence of a snake with seven hoods over the figure's head.

passage, which gave access into the centre (1871, p. 27). He implied the structure was Buddhist, and realised the monks had made no mention of it (p. 27); yet he did not draw from this any conclusions about the adequacy of their descriptions. And he did not consider the site to be important enough for inclusion in the *Ancient Geography*.

Cunningham established the main lines of topographical enquiry at Rajgir, even though a number of identifications came to be disputed. His concentration on the pilgrim sources set the pattern of debate for future workers, meant that much else at the site was marginalized.

VI. A.M. Broadley

Broadley was the Assistant Magistrate and Collector for Bihar during the 1860s, and took advantage of the travel this involved to survey sites and collect antiquities. He visited Rajgir in 1864; and although his survey can be considered very successful, his contribution has gone largely unnoticed. He was something of a rival to Cunningham in the Bihar region, and his excavation methods and habit of collecting antiquities at sites before Cunningham had reached them earned frequent criticism[106]. As a result, his work has been sidelined – although Marshall used him, he does not feature in many bibliographies, including the *Guide's*. This is unfortunate, since there is a great deal of material that he found and that is now gone. But he seems to have been little interested in precise description, and all too often important detail is missing.

[106] Imam 1966 n. 1, pp. 62-63. For criticism of Broadley's work at Rajgir cf. for instance Cunningham 1873, pp. 145-150.

VI.1 New Rajgir - His description of the New Rajgir ramparts is more detailed than Cunningham's, and much that he described is now gone. He found the citadel wall's thickness, was uniformly c. 14 feet (c. 4.27 m), and made up of drystone blocks about 4 feet² (c. 0.37 m). He also noted where the wall had disappeared on the northern side. Modern conservation has meant little of this northern side can be said to be in situ. Much more brick seems to have survived into his time, and he noted a brick tower in the northwestern corner, with the bricks described as quite small. Another brick tower was identified on the southern side about 500 feet (c. 152 m) from the southwest corner, which he describes as extremely large. A third brick tower, the description of which implies was detached, was opposite the southeast corner. He compares it to the one near the western gate, but does not say whether it too was made of small bricks. He dug into the stūpa complex to the west and managed to find three headless images in the smaller mound, and some in the larger that he praises for their quality. One is obviously the Buddha at Sārnāth, but does not bother to describe any of them in detail (1872a, pp. 20-21; 1872b, pp. 231-233).

Possibly his most important discovery was of a statuette that he claims had an inscription reading "A religious gift to the Karaṇḍahrada tank". But he would only say that it came from a tank that faced the southern wall of the rampart (1872b, p. 234), and it is unclear quite where that tank could be.

The plain towards the valley he seems to have found just a mass of brick. The only feature mentioned is the platform of stone that today sits at the junction of two roads just to the south of the citadel. Its name at that time was "Madrasah" (an Arabic word for school) (1872b, p. 238). The Madrasah now consists of a quadrangular stone base

of around four square metres with an Islamic tomb in the centre and upright pillars around its sides. Broadley's short description implies the former was not there when he visited, since he records the presence of these tombs elsewhere at the site, but does not mention it here. He calls it a cell with pillars, and this would indicate that there were other structural remains. The *Guide* assumes the pillars were not original and that the base belonged to a stūpa (Kuraishi and Ghosh 1958, p. 14) and this may be correct. But the base and pillars are at least reminiscent of relic shrines, and it should not automatically be assumed the pillars were later additions[107].

The kuṇḍs he mentions as containing a number of Buddhist sculptures and even claims to have seen stūpas converted to liṅgas. Intriguingly, he also mentions two stone spouts carved in the form of tigers or lions, a feature noticed by Xuanzang (W p. 154) (1872a, pp. 71-72; 1872b, pp. 238-239)

VI.2 Old Rajgir - His description of the valley is also noticeable for the piles of bricks that have long since been taken away. He appears to mention a large stone tower near the Sāraswatī, and another near the pass, though he describes neither at any length. Similarly, he refers to two towers flanking the southern entrance of Kuśāgrapura, in a section of rampart that was called "Barghaut" or "Barghāont" by locals. But he does not specify whether they were of brick or stone. Presumably they lay in the path of the modern road, since one could see both northern and southern passes (1872a, pp. 70-71; 1872b, pp. 237-238). The presence of the towers, however, is a good indication that

[107] The paragraph on the Madrasah has benefited by discussion with Prof. K.T. van Kooij of the University of Leiden.

the Inner Fortification did not consist only of earth banks, though of course one cannot attempt to date them.

It is to Broadley that credit must be given for identifying Gṛdhakūṭa and Bimbisāra's Causeway. He noticed what he described as a staircase or terrace running up the side of Chhaṭhāgiri (which he confused with Deoghāḥ next to it), and found two small stūpas 300 (c. 90 metres) and 1100 feet (c. 335 metres) respectively from the bottom. A mass of debris surrounded the first, within which were 3 crudely carved Buddhas, with inscriptions. The second had pillars as well as images, and seems to have been a temple rather than a stūpa[108]; of the images, a reference to Buddhas flying on gryphons shows it to have been Mahāyānist. He describes the hill itself as being covered by ruined structures on the north and west sides and with a large brick stūpa on the summit (1872a, pp. 108-109)/1872b, pp. 246-247).

VI.3 – Maṇiyār Maṭh – Broadley's "excavation" at the site has been ignored, despite the fact he contributes some important detail. He noted brick and granite pillar fragments on the side of the mound. He also refers to cornices showing both Buddhas and nāgas. If the "Buddhas" are not Jaina figures, these cornices would demonstrate some Buddhist involvement at the site. Unfortunately, his description of the Jaina figures on the Son-Bhāndār chāumukhī as Buddhist (1872b, p. 243) makes his identification problematic. In the interior of the mound he virtually retraced Cunningham's footsteps, but he adds some detail. The central room he estimates to be only c. 12 ft² (c. 1m²), and containing two granite pillars in the centre and 10 arranged

[108] Beglar could see no sign of a stūpa when he visited it (1878, p. xvii), it was not one of the two excavated later by Marshall, and that are still visible on the Causeway.

pilaster-like around the sides. A carved basalt slab was over the doorway, but he does not bother to mention what the figures represented. Plain stone pillars also lined the passage (1872b, p. 237).

VI.4 – Buddhist Ruins on the Hills – Broadley's most important contribution is his record of the remains on the hills that had either survived in situ, or were re-used in the construction of Jain temples. He visited most of the Jain temples on each hill and in most cases was able to demonstrate a pre-existing Buddhist connection. The temples of both Udaya- and Soṇagiri contained Buddhist statues with the Buddhist "ye dharma hetu…" creed (so one can be sure they are not Jain). The Ratna temple had carved basalt columns, though these are not described in detail. T

The most significant remains were on Vipula, however. At the summit was a platform 130 x 30 feet (c. 40 x 9 m) and about two metres high. The platform was made of re-used materials including pillars. At either end were ruins, a mound to the east and what he took to be a vihāra to the west. The Jain temples, though modern, had some Buddhist sculpture incorporated into their fabric. (1872, pp. 107-109; 1872b, pp. 244-248). However, the uneven surface and a scattering of bricks suggest the platform predates the modern temples, and that other structures were once there. Both have re-used old lintels with the figures of Gaṅga and Yāmunā at the base. The vihāra to the west is no longer visible, but the eastern end of the platform still has what appears to be a large stūpa mound, approximately 20 metres high[109].

[109] The platform and stūpa mound are at N25º 1.048' E85º 25.978' FOM 9.15m

Further down the mountain, near the pathway to the temples, is a circular bank of earth and small stones[110]. Though there was not brick on the surface there was some scattered around the structure. It is right on the edge of the hill, and since the hill at this point has an upward slope, the north side has been built up higher than the south so that the top remains level. We could not measure this side; the north side is 2.1 metres high. The north-south length is 5.2 metres, the east-west 6.1 metres. Its location is interesting, since from this position one has good views of the plain below.

Broadley found re-use on Vaibhāra too with pillars, carved doorways and images being used from Buddhist ruins to construct the modern Jain temples (Fig. 11). Revisiting these temples one can vouch for the correctness of his observations; the majority do have older materials built into their fabrics. One in particular has a number of ancient remains including the lintel of the sanctum. At the top of the lintel is an eroded Tārā, in bhumī-sparśa-mūdrā, and again the figures of Gaṅga and Yāmunā occupying a base each on either side[111]. Floral decoration covered the rest of the lintel. Since it is of the black schist typical of the Pālas, and the Tārā figure is small and crudely modelled, it is probably safe to assign it to the turn of the millennium. Broadley fails to mention the ancient Jaina site and it is possible he mistook it for a Buddhist one. He may also have made the same mistake with the medieval Mahādeva temple (Patil 1963, p. 460)[112] He also penetrated to the highest point of Vaibhāra and found a Jain temple on what he describes as an extremely large stūpa that had a view of the entire valley (1872a, pp. 72-74; 1872b, pp. 240-242). This temple is now cut off due to bandit activity, and no

[110] The GPS reading is N25º 1.017' E85º 25.62' FOM 9.9m
[111] The fourth example of Gaṅga and Yāmunā at the base of a lintel is found at the Mahādeva Temple, also on Vaibhāra; in this case, however, the figures are of Gupta date. However, the temple itself has been ascribed to the late Pāla (Patil 1963, pp. 460-461).
[112] He describes a Buddhist temple in near-perfect condition (p. 72; p. 240), but there is no such structure remaining.

other description remains. How large the stūpa really is can only be guessed; comparison of his descriptions with what is present today leads one to suspect Broadley was sometimes prone to exaggerate size. The Vaibhāra remains are particularly important because they vitiate the argument (e.g. in Patil 1963, p. 455) that virtually no Buddhist materials are known from the area, and thus Vaibhāra was occupied exclusively by the Jains. Srinivas records that ancient Jain temples were to be found on all the hills, dating to the time of Bimbisāra, that these and others across Magadha had been destroyed by an invasion of Buddhists, and that a process of repair had been underway from the eighteenth century onwards (Wilson 1825, pp. 38-39). This gives an insight into why Buddhist ruins turned into Jain sites.

Broadley's work is therefore valuable in reconstructing the site. However, since so much of what he found was sculptural, his poor descriptions of them have meant the destruction of what could have been valuable evidence.

VII. James Beglar

James Beglar was one of Cunningham's first two assistants, being employed by him from 1871 to 1880. His work is notable, amongst other things, for a description of Khajuraho, and his comprehensive account of the antiquities and routes of south Bihar and the Chhotanagpur Plateau (Chakrabarti 1988, pp. 83-86). He travelled separately to Rajgir in the 1872-73 season. He was the first to try and trace the line of the old city's walls in any detail. Although the jungle made this difficult in places he was able to establish their continuity, and felt able to argue for an outer fort whose walls were along the crests of the surrounding hills; and an inner fort with walls in the valley on

all sides except the west. But he was not himself able to explore the valley, relying instead on locals' descriptions (1878, pp. 87-89). Amongst his other discoveries were two inscriptions in a well to the south of the Inner Fortification, confirmation of the śankhalipi inscriptions on the flat rock surface that Kittoe had found (though he also failed to mention the ruts), and a stūpa site to the west of the Inner Fortification in the defile leading to Jethian village (pp. 85-86).

He was also the first to describe the ruins on Chhaṭhāgiri in detail, though he confused it with Śailagiri. He was able to show that it connected with other walls at the base of the valley, and that it stopped just short of an unscalable precipice. Thus it was in origin a defensive feature, not a road to the religious site. In fact, he argued Xuanzang's Causeway must have been a track, though given the stūpas and Xuanzang's description, this is a difficult position to sustain (pp. xv-xvi, xix).

Near the top of the mountain several stūpas were found, and some brick ruins on a levelled terrace just below the summit (pp. xvii-xviii). These are the ruins later identified by Marshall as the remains of the vihāra described by Xuanzang (1908, p. 92) and there seems nothing else in the area that could serve as an alternative. A brick structure was at the summit, and was to yield sealings showing the Eight Past Buddhas and an image of the Buddha at Sārnāth (Nazim 1990, p. 47), dating to the seventh century.

He also found a number of inhabited caves. Two had a brick and stone lining inside them, and in one was a number of sculptures he regarded as Gupta; if so, they would be the earliest sculptures found on the mountain. But shellac seals with characters dating

to the Pāla period have been found there since (Fábri ed. 1936, p. 30). These he argued to be Buddhas' and Ānanda's meditation cells, largely because Buddha's cave was supposed to have a twin opening according to Faxian, and both of these had two entrances. The hole that Buddha was supposed to have made in the cave wall is also there (pp. xvi-xvii). Although ignored by Marshall, the *Guide* has accepted or repeated the identification (Kuraishi and Ghosh, p. 33)[113]

Along a ridge near the summit he also found five caves, in one of which was a stūpa and image niche, and in front of the caves lay a levelled area and a revetment along a stream. He found some more caverns on the summit, but found nothing inside them (pp. xv-xxi).

As regards the Sattapaṇṇi Cave he disputed Cunningham's identification, and located it instead on the northern side of Vaibhāra, made up of six recesses and with an artificial terrace in front (pp. 98-99)[114]. Despite Cunningham's rejection of this (1878, p. viii), and his own recantation (p. xiv), his is now the accepted candidate (Kuraishi and Ghosh 1958, pp. 16-17).

The Chhaṭhāgiri section of his report is one of the most useful, since the area has changed greatly since that time, especially with the additions of a cable car and a large,

[113] Marshall seems to have overlooked this section of Beglar's report, probably because it is contained in a "Note" rather than with the rest of the Rajgir material. It is strange that Beglar overlooked the stone steps that lead up to the second cave, and provide further evidence of its importance.
[114] Cf. the Gazetteer below.

modern stūpa at the summit. But it is strange that such an important place for Mahāyāna Buddhist in particular did not yield more in the way of sculptures or structures[115].

He located the "Asurenbandh" more precisely as on the road running to Giriak along the northern range of the Rajgir hills. But although the modern road ran along its crest he was in no doubt it was intended only for irrigation (p. 99).

VIII. Mark Aurel Stein

Aurel Stein (1862-1943) was to become one of the most important figures in Central Asian and Iranian archaeology. He was more or less at the beginning of this career in the October of 1899, when he visited Rajgir as part of a survey of Magadha and Hazaribagh. His main focus was the issue of the Sattapaṇṇi cave. Although he searched for the one described by Beglar, he states that he could not find it, but found another on Vaibhāra with the help of local guides. This he believed to be the best candidate for the cave as described by the monks (1901, pp. 58-60). However, although he describes only two recesses, the presence of a platform and foundation wall supporting it makes it clear he had only rediscovered Beglar's

[115] It should be mentioned that Grierson recovered a very fine seated Buddha, of the Mahāyāna tradition, that is late Pāla in date (Grierson 1894). He makes the same mistake as Beglar in confusing the hill with Śailagiri. It is now in the Indian High Commission in London.

IX. John Marshall

The Archaeological Survey returned in 1905-6, under John Marshall. Marshall was Director-General of the Survey from 1902 to 1928; a period characterised by an extensive excavation record. Rajgir he recognised as full of promise (Lahiri 2000, p. 93) and the campaign was planned as a preliminary one, with a larger project to come. Sadly, this never materialised. A full-scale survey was carried out at the site, including the walls of Old Rājagṛiha, and a number of small-scale excavations, carried out[116].

IX.1 Old Rajgir Marshall followed Cunningham in misconstruing the pilgrims' comments on the mountains, but he recognised Cunningham misjudged the outer walls, and left out certain sections; in fact, the length was close to Xuanzang's 150 li (Marshall 1909, pp. 87-88), and they extended to Giriak and back. However, he recognised they were incomplete; with a large gap east of Chhaṭhāgiri, suggesting the fortification was never finished (n. 2, p. 88). The stones were undressed, and about 3-5 feet (c. 0.9-1.5 metres) long. The core of the wall was of smaller, cruder blocks, with the gaps between stuffed with stone chips. There was no mortar. The wall was at its highest on either side of the Bāngaṅgā Pass, where it reached 11 or 12 feet (c. 3.4-3.7 metres); elsewhere it rarely exceeded 7 or 8 (c. 2.1-2.4 metres). Wherever the maximum height was reached there was a top course of smaller stones, and an absence of fallen blocks, suggesting 1-1½ metres as the original level. He assumed a superstructure of wood and/or brick was built on top, but did not explain why if brick were used, there were little or no traces of it. The thickness was usually about 17 feet, 6 inches (5.34 metres). 16 bastions were counted, placed at irregular intervals. They were rectangular, with the

[116] For the sake of convenience the excavations at Maṇiyār Maṭh are dealt with in Section XI.

long side flush with the wall, and about 47-60x34-40 feet (14.3-18.3x10.4-12.2 metres). There were also nine ramps, built into the thickness of the wall, all on the north side of Soṇagiri. These were about 5'6" (1.7 metres) broad and 15 feet (4.6 metres) long (p. 89).

Bimbisāra's Causeway was also made of undressed stone, was about 20-24 feet (6.1-7.3 metres) thick, and extended for about a mile and a half (c. 2.4 kms). Its similarity to the wall meant it was probably a defensive structure in origin, not a road, but its age relative to the other walls was unknown (p. 91). The two stūpas that helped identify it as the Causeway were excavated, but produced no early material, only a number of late Pāla image fragments (p. 92). Obviously, Broadley had taken away the best pieces.

Two watchtowers were placed on high points on Vaibhāra; they were separate from the wall, and so relative chronology was impossible to estimate. One was just above the Tapodā springs (Cunningham's "Pippala Stone House"); the other (known according to Broadley as Sītāmuri[117]) further up the hill. . Four others were on Vipula, and one on Ratnagiri. Like the bastions the walls had a slight batter. The "Pippala" tower was measured at 81'6"x76'x26' (24.7 x 23.18 x 7.93 metres). Little rooms, possibly guard rooms, and entered by 3-foot high openings, were near the bottom. However, despite realising its function, Marshall did not dispute Cunningham's identification. He suggested that monks had occupied the cells when it had fallen into disuse (pp. 89-90); perhaps he was influenced by Broadley's reference to modern ascetics occupying these rooms (1872b, p. 239).

[117] Apparently, it was called this by local tribespeople (1872b, p. 240).

Judging the North Gate to lie in the northern pass between Vaibhāra and Vipula, he used this point to identify the location of the Kālaṇda Garden and Tank in the same general area as Broadley. He also tried to identify the Saptaparṇī Cave. He, too, could not locate Beglar's candidate, but argued it was more likely to be a building than a cave in any case. On the north side of Vaibhāra he located a spur, which had been built up and levelled, with ramps on each side to give access, and ruins of walls. The plateau had been paved with pebbles, and the space in front of the structure was 5'6" (1.68m) wide (pp. 97-100). This identification has now been rejected, and the structure remains unexplained (Kuraishi and Ghosh 1958, pp. 19-20)

IX.2 New Rajgir - Trial trenches were made in the New Rājagṛiha citadel, but the results were ambiguous, and disappointing, and it is unclear the natural level was ever reached[118] A large mound about 100 feet (c. 30 ½ m) in diameter and c. 6 feet (c. 1.8 m) high produced residential structures of brick. The earliest structure was a brick cell containing a Brāhmī inscription that could be dated to the last two centuries B.C. Above it, and at three other trenches in the citadel, were what the excavator described as domestic structure, rooms arranged around a central, brick-paved courtyard. Two "granaries", actually terracotta ring-wells were found in association, and one trench also produced an old well of wedge-shaped bricks. The dating of these later structures proved impossible due to a high degree of disturbance; but the courtyard building above the brick cell used bricks of the same size (11" x 8" x 2.5", or 28 x20.3x 6.3 cm). The small finds included a punch-marked, square copper coin, a seal with Gupta characters and a large number of Buddhist-related materials including small stone Buddha heads and a carved casket lid, which the report does not date. (pp. 101-102). It could be that

[118] D.K. Chakrabarti pers. comm..

the area excavated in was where the Chinese later found two monasteries. It would be interesting to know the basis on which the courtyard structures were deemed to be domestic, particularly when a high proportion of the small finds was religious in character. The "Gyangnananda" stūpa was also trenched, but very little was found. Bricks that were "typically Mauryan" overlaid a medieval Jaina statue, showing the bricks had been re-used. Broadley also found a lot of bricks on the surface, that he compares to those on the nearby ramparts; so it is likely the mound was re-occupied at some point. Amongst the finds were a large number of small devotional stūpas, many with inscriptions of the later first millennium A.D., but nothing of the quality that Broadley discovered. The top of the stūpa was marked by three concentric concrete terraces and three shallow tanks were located between it and the smaller stūpa to the west (p. 96). Again, no interpretation was attempted for these finds, though the tanks may be related to the nullah that flows directly past the site.

The Marshall excavations were productive from the point of view of a preliminary dig; but they were not a substitute for a major excavation. Wheeler referred to the "summary" character of his predecessor's work and correctly located his predecessor's achievement in creating an overall synthesis (1971, p. 698). But the price for this synthesis was at the local, particular level. In particular, only a fraction of the New Rajgir citadel, let alone the rest of the town, was excavated.

X. V.H. Jackson

X.1 Old Rajgir - Victor Jackson conducted a survey of the valley in 1912-13 and 1913-14. At that time there were still many stone foundations visible, particularly near the

northern entrance (1917, p. 266). This is an important observation, since most of these are now gone. He traced the line of the surviving Inner Fortification walls, found gaps in them that may have been gates and was able to note the rate of erosion they were suffering (pp. 267-268). At the western end were exposed two sāl tree stumps placed in what he described as white cement, and with the appearance of being old. These had been under part of the rampart that had slipped into the stream (p. 267). He also attempted to find ancient roads, and argued three gaps in the south wall were originally gates through which the ancient road passed. He was able to trace remains of a road running between the northern and southern gaps in the hills and passing to the east of the Maṇiyār Maṭh (p. 267). These remains have now gone, since this is the line of the modern road. His method for tracing the older paths was to assume that they would not cross old foundations and that they would run along the lowest levels of the valley, and would be surrounded by higher levels on either side. But roads would tend to run along low levels anyway, and (at least for his purposes) the foundations would only be significant if they could be shown to date from the time of Bimbisāra and Ajātaśātru. Although Jackson considered the valley could represent a multi-period site (p. 266), his working assumption seems to have been to consider all ruins to date from the mid-first millennium B.C. And whether the gaps in the wall were created for the road or the rampart was dug away for the road could not be proven either way. However, he did notice patches of double wall similar to the ones Buchanan had observed north of the valley, running either side of the main road (p. 269).

He also made a close observation of the Nekpai bund and showed it to have joined the Inner Fortification on its eastern side. He also located a moat running along the outer side of this wall, cut for about c. 300 yards (c. 275 metres) in rock, and having a depth

of c. 15 to 20 feet (c. 4–6 metres). Its effect was to divert water coming from the eastern defile northwards, and act as an extra defence. There, remains of an old bridge were found to cross it, opposite a break in the Inner Fortification (p. 268). This is one of the best indications to date that a gap in the wall actually corresponds to an old gate. Confirming its importance was a road that ran round the outer edge of the embankment to the moat area, and had a subsidiary embankment protecting it on its outer side (p. 269).

Two other embankments were located, including one running from the Inner Fortification along the eastern defile to Chhaṭhāgiri. This he suggested to be partly road and partly defensive wall, implying the city extended beyond the Inner Fortification (p. 268). But this suggestion was not tested further; no remains around these walls were reported.

The jungle was still dense when Jackson made his survey, but he was able to perceive a distinction between high mounds, on top of which stones and stone foundations were visible, and flat ground on which very little remained. In a number of cases the mounds were flat-topped with boundary walls around them; they had been built up to form terraces (pp. 268-269). One of these, when cleared, turned out to be what Jackson described as a fort. It was he who suggested it provided a view to Gṛdhakūṭa, and thus could be Bimbisāra's Jail (p. 269), the name it still bears. He found the foundations of a number of other structures, the majority 10 ft² (c. 3m²) or less, some of circular plan. It was notable that very few of these had ashlar stones; most blocks were undressed (p. 270). And few had a shape as recognisable as the Jail. Unfortunately, as he himself

admitted, there was little chance of achieving any sort of chronological resolution with his survey (p. 266).

X.2 Bimbisāra's Jail - - the Jail is located at not far from Maṇiyār Maṭh, very close to the modern (and ancient) road, at N24°59.687' E085°25.756' (Fig. 19). It was brought to academic notice by the survey of Jackson but it may be that Buchanan's journal mentions it (Jackson 1925, p. 142) and it must be the "palace" recorded by Sister Nivedita (1915, p. 45), who visited Rajgir shortly before Jackson. It consists of a square wall, about 2 metres thick and enclosing a space of about 60 m², with a round "bastion" at each corner. The structure has been restored, but only the outer walls remain; the interior is now completely bare. However, during further clearance in the mid-1930s stone cells were found, in one of which was an iron ring or manacle, with a loop attached, was found (Kuraishi and Ghosh 1958, p. 29). It is unfortunate the number of cells was not specified. The present structure owes much to the restoration process, and can be considered more or less a "sketch" of the original. The bastions are now depicted as solid, but there are no records to determine whether they were actually hollow. Near the southeastern corner of the central court is a depression that may be what remains of a cistern.

It was Jackson who gave it the present title. He found a number of such structures and took them to be forts (*garhs*). Since it had a view of Gṛdhakūṭa, he suggested it as the jail Bimbisāra was imprisoned in after his overthrow by Ajātaśātru. It was said he had a view of the Buddha on the mountain (1917, p. 269). The discovery of the "manacle" added to the impression. Kuraishi followed on from Jackson's work in the valley by

observing a number of courtyard buildings, with rooms on the sides that he took for monasteries. But he still accepted the Jail was Bimbisāra's prison (1931, p. 119).

But the structure is almost certainly monastic. Although it looks defensive, its closest parallels are with the Mahābodhi Saṅghārāma described by Cunningham (Fig. 20). Known locally as *Amar Sinh's Fort* it had walls about 9 feet (c. 2.75 metres) thick and round towers at each corner. It also had an enclosure wall with 16 towers, four at each corner and three on each side. The whole was on what Cunningham described as a plinth 7'9" (2.35 metres) high. At its centre was a court that contained a well, with a covered drain running to the outer wall. Around the court was a pillared cloister with cells on each of the four sides. The corner bastions he took to be towers or pavilions several storeys high and with domed roofs with āmalaka pinnacle. No stūpa was found in the Jail, and none was found in the Fort either, though Cunningham assumed there must have been one originally (Cunningham 1892, pp. 42-44). A glance at his plan shows a much more complicated structure than the Jail; not only are cells in the plan, but there were also projections from the main wall. There is at least no record of such projections having been found at the Jail.

Parallels for this type have been found elsewhere. A recent survey in the area of Sanchi in Madhya Pradesh has located two of them, each structure having hollow bastions (J. Shaw pers. comm.). Also at Sanchi is Building 43, again with bastions at each of the four corners and projections from the four walls to make the structure cruciform in shape. The bastions were considered unlikely to be stūpa bases as (like the Jail) no trace of a superstructure was found on top of any of them. There were interior walls, but these were judged to be later. Below it was a courtyard monastery, which could be

dated by an inscription to the seventh or eighth centuries. And pieces of an eleventh or twelfth-century structure were incorporated into 43's fabric, though this could have been the result of repair. In any case, 43 seems to be one of the later buildings at Sanchi (Marshall 1918, pp. 132-133; Marshall and Foucher 1982, p. 398).

Further afield, one is reminded of the layout of the Great Stūpa of Kaniṣka near Peshawar, which also appears to have had a tower at each corner (and a cruciform plan). The bastions appear to have been later additions, though when they were added is unclear (Dobbins 1971, pp. 18, 23). Most monasteries had circular towers in the Kabul Valley from the mid-first millennium A.D. on, though not necessarily in the four corners (Kuwayama 1997, pp. 43-44).

Finally, the Chinese accounts also refer to towers at each of the four corners of a quadrangular monastic plan, though the description of the interior refers to halls rather than cells, and the towers seem to be turreted. These buildings were meant to be at Nālandā, though to date no such monastic structure has been located there, and also in Śrāvastī[119]. The fact that Turkish invaders in the thirteenth century destroyed the vihāra at Bihar Sharif because it looked like a fort (Askari and Ahmad 1983, p. 37) is also suggestive.

Neither Faxian nor Xuanzang refer to any monastic structures in the centre of the valley, and indeed Faxian refers to the area as a waste. *Ex silentio* arguments can be dangerous, but the sculptures recovered from Rajgir do not suggest a lot of activity until

[119] Misra 1998 has collected the literary references to Nālandā, those referring to quadrangular structures are on pp. 66 and 70.

the Pāla period, and literary sources do suggest a rising status for Rajgir from the eighth century onwards[120]. It is very likely that around this time a number of vihāras were established in the valley, and the Jail is the best preserved of them.

XI Maṇiyār Maṭh Excavations

The Maṭh (Fig. 16) has been the most intensively studied monument at Rajgir, although unfortunately the published reports leave much to be desired. It is also, along with the Outer Fortification, the most enigmatic structure at the site. It was first properly excavated by Theodore Bloch in 1905-06, when the Jain temple was demolished, and the mound cleared away, and further excavations in the 1920s and '30s have helped clarify the stratigraphy, but clearly there is still much to be done. The original structure was a hollow cylinder with a brick wall about 1.2 of a metre thick, and with projections at the four cardinal points. No entrance inside it has so far been found. Around it was later built another wall, c. 0.4m thick, with stuccoes, about 60 cm high, ranged around the base (Fig. 17). Of the ten images, five were nāgas, one was a nagī and the other four were a liṅga, Viṣṇu, Ganeśa (wrapped in cobras) and Śiva (who was associated with a single cobra). The images have been variously dated from the Gupta period to the seventh century, and a consensus has not yet been reached. Doubtless this is at least partly due to the fact that all but Ganeśa have been destroyed. This building had a tiled, conical roof, and door that gave entry to the original wall. Patil's belief that this shows continuity with the older cult (1963, p. 443) is a possibility. At some point in the later first millennium, another circular wall was placed around the stuccoes, and an oblong platform with staircase was also constructed. Later, a cylindrical wall was built on top

[120] Cf. Chapter Four.

of the stuccoed wall. The only photo of the images in situ shows this wall has cut into the tops of the niches, suggesting some discontinuity. The rising level of concrete pavement surrounding the building suggests the images may have been obscured from view. Although the last cylindrical wall preserved the alignment of the previous ones, it is more difficult to accept continuity so readily. An enclosing wall, built in three phases difficult to correlate with the temple's, was also built. Whether it served as a retaining wall or had some other function is also not known (Marshall 1908, pp. 103-106; Fábri 1936, pp. 30-31; Chandra 1938; Nazim 1990; Kuraishi and Ghosh, pp. 20-26; Patil, pp. 441-445).

Bloch found a sitting nāga image in the Jain temple, dated to 1490, and Patil infers from this that the site was used continuously until then (p. 443). In fact, its history during the second millennium is completely unclear until the last phase of construction, which was the building of the Jain temple some time after 1781. This was dedicated to the nāga Śālibhadra (Wilson 1825, p. 38) though it also has a connection with the fifteenth and sixteenth tīrthāṅkaras (Broadley 1872b, p. 241).

Although Bloch preferred to see the temple as a pantheon and Marshall felt it might be a liṅga (Marshall 1908, pp. 104-105) the emphasis has been on connections with a nāga cult. This is despite the fact that only one other temple dedicated to nāgas has been claimed for India, the apsidal shrine at Sonkh (Härtel 1975; 1993, pp. 411-469); and whatever the merits of this claim, it is very different in shape and sophistication from the Maṇiyār. But the association with nāga worship is very strong. Nearby are a number of platforms, or "altars" (though there is no real evidence for their function) also made of brick. One of these "altars" lies to the east of the temple, and lies over

two enclosures, the large size of the bricks in its walls[121] suggesting to its excavator a date in the last centuries B.C. Buried inside them were spouted jars, the spouts being of various shapes including serpent hoods, and the jars ranging in height from c. 90 to c. 120 cms (Fig. 18). A large number of terracotta figurines were also found, including snakes (Chandra 1938). The closest parallel to the jars has been found in Bengal, with the worship of a goddess of serpents, Manasā – whose image, albeit dating from the mid-12th century or later, has been found not far to the east, in the area of Lakhi Sarai (Bautze-Picron 1991/2, p. 242). Associated with a brick platform on the western side of the Mañh is a sculpture in Mathurā sandstone, consisting of the figures of nāgas and nagīs and inscriptions containing the names of Maṇināga, and Sumāgadhī. The sculpture is of Mathurā sandstone, and dates to the first or second century A.D[122]. The modern name itself is clearly derived from Maṇināga, though "Maṇiyār" was only the Hindu, not the Jain name, of the site (Kittoe, p. 957). However, the dedication to Śālibhadra, and Cunningham's discovery of a Parśvanātha image shows the nāga connection was retained by the Jains. Bihar has an ancient and continuing connection with nāga-worship and textual references suggest this site may have a significance going back to before the Christian era[123]

As to who worshipped at the site, the evidence is unclear. One might hypothesise that a centre of nāga worship was assimilated into Brahmanism, the site was abandoned and the Jains re-occupied it from the fifteenth century onwards (if the nāga image found by Bloch is originally Jain). But the issue is complicated by a fragment of Mathurā

[121] 17 x 12 x 2 ½ inches (43 x 30 x 5.3 cm.)
[122] Majumdar argues that "Mauryan polish" on the nāga hoods suggested second century B.C. (1987, pp. 72-73), but this is too early for the inscription, assuming it comes from the same sculpture, and the style.
[123] Cf. Chapter Four under Maṇimāla, but also the qualification there. For references to nāgas and Bihar cf. especially Prasad 1960, but also Roy 1926, Keny 1942 and Mitra 1957.

sandstone found near the Maṇināga sculpture, and which may in fact be part of it. The fragment has an inscription in Prākrit from the first century A.D. that refers both to Vipula and to Śreṇika, the Jaina name for Bimbisāra (Sahai 1983, pp. 30-31). Heads and a torso of Jaina monks, but of unknown date, were also found, though no dates for these were given (Fábri 1936, p. 31), and nāgas play an important role in Jaina religion. But there is little to indicate a connection with Jainism in the nāga stuccoes, and four of the sculptures are brahmanical. There is also the (possible) image of Śiva found by Cunningham and a fragment of a seated Viṣṇu (Fábri, p. 30) although again no date is specified in either case. Nor can one rule out Buddhist interest in the site. Some of the brick platforms surrounding the main building are circular and thus reminiscent of stūpa bases – although of course, they could have served some other purpose. What is more intriguing is Cunningham's figure of Māyā and the ascetic Buddha, found several metres below the surface, and Broadley's cornices of Buddhas and nāgas. There is also the fact that at least one and probably several vihāras were in the valley during the Pāla period. Since the "Buddhist" sculptures can no longer be examined, one cannot do anything else except leave the possibility open. There is the added complication of probable periods of abandonment, and the possible importation of artefacts onto the site as rubbish. What one can say for certain is that there was continuous activity at the site at least until the mid-first millennium A.D. The Mathurā fragments already mentioned, and a pedestal with illegible Kuśāṇā characters found by the Marshall team nearby (Marshall 1908, p. 106) – and which may be part of the same monument - give the best indications for early activity. Perhaps one could hypothesise that a nāga cult site was monumentalised and may have been patronised by the Jains (the Son-Bhāndār Cave is not far away), though it may not have been exclusively Jain site. At some point in the mid-first millennium A.D. the site was "brahmanised", and the stucco wall added;

though the stuccoes only provide a terminal date (and a vague one at that) for this brahmanisation. What it may have looked like when complete is indicated possibly by the Mathurā panel, which clearly shows two niches in a temple surrounded by a railing (Härtel 1993, p. 427). Because the panel is centuries earlier than the stuccoes it suggests the structure within which the latter found may have had a predecessor built along similar lines.

Ash found by the Bloch excavation (1908, p. 103) suggests a conflagration, though not necessarily deliberate destruction. And the sandstone nāga monument is in such a broken state that it seems as though it was deliberately smashed, although until one has a date for the platform it was found on top one cannot begin to speculate as to when this may have happened. This is all one can say at present; the evidence is such that a number of narratives are possible. Much still needs to be done and the stone walls that appear to be beneath the levels so far excavated (Nazim 1990, p. 46) suggest further excavation is necessary.

XII The Vaibhāra Jaina Temple

An ancient temple that is undoubtedly Jaina was excavated during the 1920s and '30s, and lies near the modern temples on Vaibhāra (Fig. 22). Its presence has been associated with the Son-Bhāndār cave and Xuanzang's reference to Digambaras on Vaibhāra to present an argument that this mountain was particularly associated with Jains (e.g. Kuraishi and Ghosh 1958, p. 18; Patil 1963, p. 455), although as we have seen the Buddhist materials found in the modern temples suggest it was not exclusively occupied by them. Unfortunately, details of the structure itself are scanty. It is made

of brick and consists of a central square sanctuary surrounded by a courtyard, with 24 rooms branching off it. The whole building measures c. 19 ½ x 17 ¼ metres (Fábri 1936, p. 31; Kuraishi and Ghosh 1958, pp. 17-18). The chambers are built into the side of the hill and are on two levels, with a semi-subterranean chamber on the southern side. But descriptions of the structure itself are confined mostly to the sculptures. Four are of Gupta date, with a basalt image of Neminātha bearing an inscription in characters of the fourth century (Chanda 1928, pp. 125-126). But the majority are of Pāla date, and range in date from the whole of that period. As with the Son-Bhāndār examples they are of the Digambara tradition, which is in accord with Xuanzang's reference to them (W p. 154). And, again like the Son-Bhāndār material, they have been defaced at some indeterminate period. The area was sacred to two religions, since the medieval Mahādeva temple is only about 100 metres to the west and there is a brick ruin of indeterminate shape nearby.

XIII Bimbisāra's Chariot Tracks

The ruts were uncovered in 1936-37 and lie towards the Bāngaṅgā Pass[124] (Fig. 23). They are from the line of the old road, which, according to Kittoe, lay on the bare rock (1847, p. 958), and they were probably formed in a similar way to the more numerous examples on Malta, where a thin layer of soil covered a soft rock (in the case of the Chariot Tracks, slate). Unlike the Maltese examples, they are curved rather than narrowing to a point, indicating they were formed by wheels rather than sledges. The two deepest are at a fairly regular distance from each other, though the 1.4 metres given

[124] At N24°59.085' 085°25.883'

by Ghosh (1989, p. 364), perhaps implies a too precise distance. In the same area, there are what appear to be other rut marks that have not been fully cleared of soil.

The marks have been popularised as the traces of Bimbisāra's chariot wheels. It is one of the clearest modern indications of the way in which archaeology has recast the site so that a feature is identified with a figure from Buddhist history rather than with Jarāsandha[125]. The śaṅkhalipi first described by Kittoe remains (Fig. 24), but until the script is adequately translated, the reason for their location here is unclear, although the script does seem to be associated with ritual sites. In this case, however, it was possibly proximity to the road, the softness of the rock and the flatness of the ledge into which the characters were carved that were determining factors. Most of the other markings Kittoe recorded have gone, though they were not necessarily very old. Oddly, neither he nor anyone else seems to have noticed that along with the inscriptions are four cup-marks, each about three centimetres in diameter.

XIV A. Ghosh

One of the most important recent excavations was carried out by Amalananda Ghosh in 1950, who excavated a 9' x 3' (2.75 x 0.92m) cutting in the northwestern stretch of the Inner Fortification, where the Sāraswatī rivulet had eroded the earth away. He found a stratified sequence beginning with coarse, shapeless sherds covered in a terracotta red wash, with the occasional sherd showing black slip on the exterior, and one with a black-slipped exterior and chocolate-slipped interior. He was not able to offer a date for this period. A flood deposit and burnt-earth layer with charcoal was

[125] Cf. Chapter Five.

succeeded by NBP and its associated wares, including grey, black and black-and-red. The earliest NBP phase was also characterised by a type of post-cremation burial, the ashes being deposited in clay-lined pits with short funnels & elliptical bottoms, the funnels being stoppered with clay; in one case there was a clay seal, and two pits had stone blocks. He was able to sub-divide this period into three phases: IIA had no red ware and its NBP was thin to medium in section; IIB saw the NBP grow gradually thicker, with the black ware declining in quality and dark grey sherds beginning to appear, and red ware becoming prominent; and IIC sees the disappearance of NBP, the continuing decline of black ware and, in later levels a predominance of red-coloured troughs and thick jars. The latter continued into the next main level, while in the final strata of Level IV the jars start to become thinner and bright red terracotta bowls also appear. The developmental sequence that he found for NBP, BSW and grey ware thus conforms to the pattern described by Roy (1983, p. 204), so that IIB can be described as Late. Ghosh himself ascribed II to the second century B.C. and IV to the first century A.D. After the NBP period there were three clay layers that he interpreted as road surfaces, one of them also having a filling of sherds and brick-bats and surfaced with gravel (1951). This is the earliest archaeological evidence for the use of what is still the road out of the valley. Ghosh's excavation, although small, was useful in arriving at a usable sequence, and the fact that occupation stops around the beginning of the first millennium A.D. is also important, though as he himself pointed out, it would be dangerous to apply the sequence too readily to the rest of the valley (1951, pp. 66, 69). The fact that it is stratified means that it cannot be part of the Inner Fortification, but an occupation deposit saved by the presence of a temple on its summit[126]

[126] Cf. the discussion of the Jāradevī Mound in Chapter Six.

XV The Jīvakamrāvana Excavations

In the 1950s a series of excavations was conducted in an area identified as the Jīvakāmrāvana between the Inner Fortification and Chhathāgiri[127]. They uncovered a series of oblong and especially elliptical stone structures, with the surviving remains made out of rubble and mud mortar (Fig. 22). Each elliptical hall had oblong rooms on either side, and occasionally brick floors, though this was rare. At some point after the first hall was built a compound wall, also of stone, was built. The halls are quite large, biggest being 208' x 34' (c. 63.4 x 10.4 metres). Unfortunately, the summaries in *Indian Archaeology* (IAR[128] 1954: 1955: 1958: 1959) and in Patil's *Antiquarian Remains* (1963, pp. 447-449) are the only publications on this site, so it is difficult to judge what was found. As for dating, the only artefacts found were iron nails, some animal figurines, terracotta balls and some coarse red ware. But the excavators seemingly could not use them for dating (Patil 1963, p. 448); and despite the implication of the published reports, the pottery predates the halls and is associated with rubble of a lower layer. The ceramics in fact belong the same group as the pre-NBP coarse red ware found by Ghosh.

Since these halls are elliptical at either end, and no stūpa remains have been found, it is unlikely we are dealing with "apses", and so comparison with structures such as the Deccan cave monasteries is unsuitable. However, one cave does seem to be a good parallel, the Gopika cave in Nagārjuni hill, not far from Rajgir, and the donative inscription mentioning the Mauryan Daśaratha dates it to the third century B.C. Other,

[127] Cf. the discussion on the Jīvakāmrāvana in Chapter Four.
[128] *Indian Archaeology Review*.

free-standing, structures are difficult to date but appear to be later (Sarkar 1965). It is difficult, then, to date these halls, but the absence of brick does suggest a wooden superstructure, and the halls could well be early. And that they were monastic is supported by the depiction of monastic structures of similar appearance from reliefs of the last two centuries B.C. from Bhārhut and Amarāvatī (Allchin 1995, p. 246). If the halls are monastic they could indicate that the courtyard form of monastery is not the oldest type of communal monasticism.

Elsewhere, the excavators found suggestive ceramic evidence. In the vicinity of Maṇiyār Maṭh trial trenches found NBP immediately above the natural (IAR 1955, pp. 16-17), while a revetted platform against the eastern wall of the Inner Fortification proved to have three levels of construction, with some medium to coarse red ware and fine black ware at the lowest, then NBP and painted red ware in the middle and red ware alone in the final layer (1954, p. 9). In one case then, occupation would seem to have started during the NBP period, but the other, there are indications that it may have begun in the early first millennium B.C. They also showed that the complex of banks described by Jackson was connected with the Soṇagiri stretch of the Outer Fortification (1958, p. 11).

XVI New Rajgir

In 1961-2 a cutting 66m long was made in the southwestern wall of the citadel at the southwest corner bastion to a depth of 18 metres. In the lowest level were some red ware sherds and stone foundations appeared in the upper strata, along with ash and some NBP. This was accompanied by fine to medium red with black decoration, as

well as punch-marked coins, some iron and terracotta figurines. A fire seems to have destroyed it. Above this layer was raised the mud rampart, together with a brick retaining wall on the southern side and a top lining of mud and brickbats. It was this rampart that was associated with the moat and similar pottery finds again suggested the NBP period as the time of its construction. A brick wall was later added on top and associated with this phase (IIB) were poor-quality black sherds, suggestive of the Late NBP. The rampart was later repaired again. It was not possible to link the bastions with any of these phases. A cutting in the southeastern corner again showed a three-stage development, with NBP appearing in the earliest levels, followed by the mud rampart and then the brick fortification. However, two C14 dates, taken from the layer below the rampart in the southwest cutting, produced surprisingly low dates, with median dates in the mid-third century B.C. and a standard deviation that would allow at most a mid-fourth century B.C. date.

Finally, work associated with the construction of a Svetāmbara Jain temple uncovered remains argued by the excavators to date from the third or second century B.C., including rammed earth floors, urn burials, some copper coins, NBP and deep red-slipped wares. This was followed by red ware from the first or second century A.D. and a later level that consisted mainly of burials. The site was just to the north of Vaibhāra, and to the southwest of the New Rajgir fortifications (IAR 1978, pp. 10-11).

XVII The Reconstruction of Buddhist Topography

When in 1843 Cunningham first announced his programme of utilising the Chinese records to locate Buddhism's most significant sites Rājagriha was among them. Nearly

20 years, therefore, before his first visit to Rajgir he had prefigured it as Buddhist. This is shown again in 1848 when he published his proposal for systematic archaeological investigation in India. Most of the proposal is spent justifying the study of Buddhist remains. Hindu ruins are mentioned once, the Purāṇas are dismissed as useless and Islam is referred to only as the force that destroyed Buddhism (1848, pp. 535-536). When he arrived at Rajgir his energies were spent on the identification of as many Buddhist structures as he could. The kuṇḍs were given a paragraph; Makhdum Kuṇḍ was dismissed in a phrase, and it is unlikely he visited it. If he had it is difficult to believe the significance of the rock would have escaped him. Apart from the kuõós, nearly every feature of the site was eventually to have a Buddhist dimension – the watchtower on Vaibhāra became the Pippala cave, the Maṇiyār Maṭh was a stūpa, and Son-Bhāndār was Sattapaṇṇi. The Inner Fortification was integrated into this relationship by the identification of its northern gap with Xuanzang's North Gate; and even the Outer Fortification was drawn in by his misconstruction of the pilgrims' reference to the hills. The entire project was based on the conflation of two moments in the history of Buddhism, and this unstated assumption was unfortunately never questioned.

When dealing with his texts, Cunningham used a hermeneutic strategy to integrate them with the archaeology. He would use the text to set the initial conditions of what he had discovered, to establish an identification. But then he would use what he had discovered to interpret the text. An example of this methodology is the Mahābodhi monastery of Bodhgaya. Here, he discovered a rectangular structure with bastions at each corner and an enclosure wall with 16 towers. Its location close to the main temple led him to interpret it as the Mahābodhi Saṅghārāma described by Xuanzang. But then

he extracted from the latter a reference to six monasteries and concluded that this was one of them. (Cunningham 1892, pp. 43-45) In fact, the reference was to a monastery of six courts (Watters 1905, p. 136). It must be remembered that for much of his work, Cunningham was using a rather faulty translation[129], by Julien. But he made similar mistakes with the Beal translation. This is the context for his belief that the Chinese mentioned the Outer Fortification and not merely the hills; and the way he manipulated the location of the Saptaparṇī Cave to suit his preferred candidate. The mis-identification of Saptaparṇī was picked up early by Fergusson and Beal (Beal 1906, p. 156), and has not been influential; but the error concerning the Outer Fortification was repeated by Marshall (1906-07) and has never been seriously questioned.

That a single religion no longer present in India could play such a part in a site's interpretation can be explained by reference to the position of Buddhism in Victorian consciousness, a position that had largely been created by the 1850s (Almond 1988, pp. 24-25). One finds most aspects of it illustrated in some of Cunningham's early work, particularly the *Bhilsa Topes* (1854). Buddha, he argued, was a social critic, attacking caste and the "menaces of the most powerful and arrogant priesthood in the world" i.e. the brāhmaṇas (p. 51). Buddhism was a religion that preached an ethical system, and was opposed to empty ritualism. Its rational, pacifist nature was the very opposite of Islam, which appealed to the passions and to satisfaction of desire, and whose history was a particularly bloodthirsty one:

"The sanguinary career of the Islamite was lighted by the lurid flames of burning cities; the peaceful progress of the Buddha was illuminated by the cheerful faces of the sick

[129] cf. the criticism made throughout the Watters edition.

in monastic hospitals, and by the happy smiles of travellers reposing in the Dharmśalas by the roadside" (p. 54)

And Buddhism was an important part of the history of India, at least as old as Hinduism, and at one time the country's dominant faith, until ritualism and monkish indolence and lack of zeal brought about its downfall (pp. vii-viii, 2-3) – a very Protestant assumption. His views are strikingly typical of characterisations of Buddhism being made at that time, and his statements can be regarded as a précis of the dominant paradigm. Although the *Bhilsa Topes* is an early work, and aimed at a general audience it points to one context in which Cunningham's project was conceived.

But Cunningham's work does not merely reflect tenets of contemporary Buddhist scholarship; it must also be related to wider currents in Britain's approach to India's past. Since the mid-eighteenth century, a number of scholars, of whom Sir William Jones was the most famous, began to develop the idea of an India that had more or less declined from a golden age. That golden age they defined as the period in which the Vedic texts, which were just being discovered and translated, were composed. If India were to progress, it needed to do so by rediscovering this past and learning from Europe through the medium of its own languages. A counter-movement, developing from the late eighteenth century and represented in the nineteenth by James Mill and Thomas Babington Macaulay, rejected this view of the past. Instead, India had never had a past which could be valued and had been held back in particular by the brahmaṇa priesthood. Progress (which included the spread of Christianity) could only be made through separating the country from its past and an Anglicisation of its language and society[130].

[130] Buchanan's writings leave no doubt of his anti-brahmanical views.

The two approaches[131], labelled Orientalism and Anglicism by Kopf[132] were in conflict in the early part of the nineteenth century, but Anglicism had won the day well before the Indian Mutiny of 1857 undermined Orientalism even further. Strangely, accounts of this debate have tended both to underplay the role of archaeology and the place of Buddhist studies in this debate. In Cunningham's early writings one sees a position distinct from either.

Cunningham had come from an antiquarian and Romantic background. His father was Allan Cunningham, who collected folk songs of the Highlands and who was an associate of Sir Walter Scott (who was responsible for gaining Alexander his Indian commission). Once in India, Cunningham came under the wing of the Orientalist James Prinsep, who helped develop his antiquarian interest in the Indian past. But by this time the Anglicist camp was strong; and Cunningham's position represents a blending of the two. India did have a golden age, but it was a Buddhist one, that era in which Buddhism had been the dominant faith. But that religion had fallen and India was now in the grip of Hinduism and Islam. But archaeology had a role to play in the recovery of this Buddhist past, and therefore in India's future. For, in a letter on the discovery of Saṅkissa in 1843, he refers to the presence of Buddhism as a vitiation of the belief that India could never change – it could show that the aims of philanthropy and of Christian mission could eventually triumph there (1843, pp. 248-249). Given a sense of the relationship between past and present inherited from his father and his father's circle;

[131] A division into two camps should not hide the diversity of opinions within them. In particular, Horace Wilson was responsible for revaluing the Purāṇas as an important source of modern Hinduism, over against others who had seen them as symptomatic of decline from the highpoint of the Vedas. Cunningham did not share Wilson's estimate.

[132] Accounts of this controversy can be found in Kopf 1969; Trautmann 1997 (Trautmann labels the approaches Indomania and Indophobia respectively.) Further material can be found in Kejariwal 1988

and his sense of Buddhism and archaeology as a means of interpreting India's future, his focus is unsurprising.

This emphasis on the Buddhist features of the site, and indeed of his survey in general, did not go uncriticised in his own time (Imam 1965, p. 204). Despite valid criticisms of his work, Broadley should be commended for showing an interest in Islamic remains in general and the veneration of Sharafuddin in particular (1872b, pp. 211, 243-244). Nevertheless, Cunningham's work has largely structured the terms of debate ever since. As has been noted, a large portion of Marshall's report was spent debating some of the identifications proposed by Cunningham. He, too, was prepared to take the pilgrims' measurements of the city seriously, and to picture early Buddhist monks occupying an old watchtower. This shows the danger of assuming an identification ought to be taken as an explanation of its function. The fact that the monks, visiting a millennium or more after Bimbisāra and Buddha, could be transmitting false information was rarely considered.

Marshall had come to India wanting to excavate in "Buddhist cities" (Lahiri 2000, pp. 89-90) and his report shows the influence of this concept. Jackson, whose work in the valley was the most thorough of the early surveys there, warned against the danger of attributing everything to one period (1917, p. 266), then proceeded to do exactly that in his interpretation of his finds – even to the point of creating a "Bimbisāra's Jail" (p. 269). And the process continued; when an old road was uncovered in the 1930s the ruts immediately became "Bimbisāra's Chariot Tracks".

XVIII. Archaeological Implications

This archaeological topography bears many similarities to the earlier Buddhist topography, (or indeed the Hindu and Jain topographies that still persist). Each is a way of making meaning in the landscape, (primarily the man-made landscape), of relating past and present in a locative identification. Each is anchored in the biography of the Buddha, presenting the remains in terms of the mid-first millennium B.C. And both represent a particular relation of text to topography, an application of one to the other with the second dependent for its meaning on the first. This process of creating meaning from landscape a characteristic of archaeology in general, and one should distinguish this from the issue of how successful this process is - in other words, the degree of congruence between reconstruction and the past reality. But this role makes it amenable to appropriation by religious groups, in this case Buddhism.

A new Buddhist topography has therefore been devised and imposed on the landscape, anchored as much in the authority of archaeology as that of textual tradition. And it provides the interpretive grid through which tourists and pilgrims view the site. Each structure's meaning is anchored both by the *Guide* and by the signage around the site, and their effect has been not only an erasure of indeterminacy, but (for the Buddhists) a concretization of religious truths.

Because of its place in the pilgrimage circuit this topography is of more than local importance. Rajgir's own prominence and its proximity to Bodhgaya have meant it has felt the effects of integration into international Buddhist communities. New elements of the religion have been constructed, including Buddhist temples in the town and the

Japanese Shanti Stūpa, which sits on the peak of Gṛdhakūṭa and dominates the valley. The legitimacy of the archaeological discourse has become tied to religious practice and the latter's effect on the local economy; and these in turn have affected local perceptions of the site. The New Rājagṛiha citadel's association with Sher Shah, and the folktale of the milkmaid, was replaced by the twentieth century with the lable "garh (fort) of Ajātaśātru" (Niyogi 1935, p. 9)[133]. "Purāṇa Rājgīr" (Old Rajgir) had replaced "Haṃsapurnagar" by Cunningham's time (1924, p. 531), and Jackson found no evidence for the use of the older term (1917, p. 266). On modern maps, the plain between the hills and the modern town has been marked as "Benu Ban" (Veṇuvana).

The rediscovery of Indian Buddhism is one of archaeology's greatest achievements of the nineteenth century, and Cunningham was a crucial figure in this. Identifying weaknesses in his approach ought not to deny him his status or mask the extent of his achievement. But to see his and others' work as only a rediscovery is to sever archaeology from its political and social context. This revived Buddhist topography of Rajgir does have some relationship to that represented in the texts of Xuanzang and Faxian. But that relationship is not the sum of its meaning. It is still an artefact created from the claims of archaeology to privileged access to the past; to the Western framework out of which Indian archaeology evolved; and to its relationship with political authority.

It should be remembered that Buddhism is not alone in granting wider significance to Rajgir. It is still a major pilgrimage site for Jainism, the springs are a pilgrimage centre

[133] There is every evidence the citadel was in fact refortified at some point in the mid-second millennium, and as Sher Shah fortified a number of towns in this region, there may well be a solid basis for the story.

for Hindus of Bihar and Bengal, and the Makhdūm Kuṇḍ is an important shrine for Bihari Muslims. The uniqueness of the Buddhist case lies in its dependence on Western archaeological analysis.

The archaeological consequences of have been:

1. a continuing conflation of the scriptural and pilgrim descriptions
2. a conceptualisation of the site in terms of its religious features
3. the marginalisation of other religious topographies.
4. a "flattening" of the site such that its significance is seen to be in terms of Buddha's residence there.

This last is especially noteworthy given that virtually every datable feature at Rajgir, from the Son-Bhāndār cave and Maṇiyār Maṭh in the valley, to the structures uncovered by the Marshall dig inside New Rajgir, to the Gupta and Pāla Jaina sculptures on Vaibhāra, date to well after Bimbisāra and Ajātaśātru. Analysing the history of Rajgir's archaeology is thus not just a means of placing it within a wider context, it is also an attempt at explaining how archaeological perspectives of the site have been subject to such distortion. And in the context of Indian archaeology as a whole, Rajgir is not a unique case.

From a methodological perspective, genuine archaeological work has been confined to trial trenches, and in the case of the Marshall expedition these did not provide much satisfactory information about the areas in which they were dug. A detailed stratigraphy of the whole site has yet to be developed. As for the standing remains, many still have

no archaeological proof for their age. Some of the nineteenth-century surveys, lacked a suitable framework for dealing with some of the information discovered, and an additional problem was the employment of a discursive style that precluded detailed discussion of finds – Broadley's report is a particular example of this.

The dating of the city itself is not the least of the problems concerning the site. Most major urban sites in the Gangetic valley seem to have started their development by the fifth or sixth centuries B.C. If Rajgir was ideally placed as an end-point for an important trade route, able to control resource from the Chhotanagpur plateau to the south, then one should expect it to be very old. Unfortunately, nothing found so far suggests dates much beyond the fifth century B.C. Ghosh's excavations at Old Rājagṛiha associate its beginnings with the Northern Black Polished Ware, the earliest date for which is still contentious. At New Rājagṛiha radiocarbon dating of material below its earthen rampart did not produce anything, which could at the earliest be older than 400 B.C. (IAR 1965, p. 5). Marshall's work was similarly unsuccessful.

The other main problem is the relation between the old and new cities. It is clear both from the *Mahābhārata* and the Chinese accounts that a tradition existed of a city within the five hills, which preceded the one to the north. However, only religious structures, such as the Jīvakamrāvana, Bimbisāra's and the Maṇiyār Maṭh, have been found in the valley. Some have argued the old city did not exist. Buchanan believed the valley was too hot (Jackson 1925, p. x). Bloch, who excavated Maṇiyār Maṭh on behalf of Marshall, considered it to be a last resort for defence (Jackson 1917, p. 266). Patil believed the Outer Fortification to be of indeterminate date, and possibly recent, while the Inner Fortification was for protection against run-off during the monsoons (1961,dp.

447). Chakrabarti felt the area might have been a pre-urban tribal and religious site, but not an urban centre (1976, pp. 266-267).

Up until now most scholars have assumed the site's importance ended when the capital was shifted, and thus monumental structures like the Outer Fortification ought to date from this before this. Of course the accounts of the Chinese monks have reinforced this assumption. As Patil pointed out, such an assumption is not necessarily warranted. In the case of the outer walls, if Sher Shah did not build them, it is likely only the monarchs of Buddha's time would have had the necessary resources. But other, smaller works, such as monasteries or the New Rājagṛiha walls, may be later in date. The town was important for far longer than its heyday as Magadhan capital, and so proper excavation needs to provide satisfactory accounts of these later periods.

Marshall concluded his discussion on Gṛdhakūṭa by stating that "In particular, it would be worth while trying to find the stone on which Buddha walked up and down for exercise, the great rock said to have been flung at him by Devadatta, the hole in the rock through which Buddha stretched his hand to pat Ānanda's head, and the rock in the stream on which Buddha dried his garment…" (1908, p. 93). This chapter has tried to show how that sentence could be written, but also question quite how "worth while" such a search could be.

CHAPTER FOUR

FIELDWORK AT OLD RAJGIR

I. Introduction

I.1 Aims – The results of previous fieldwork in Rajgir, and a critique of the frameworks within which it was pursued have been presented. This chapter concerns itself with my own fieldwork, conducted in the winter of 1998/99. It had two major aims; to walk the length of the cyclopean wall and to test the tradition that Old Rajgir had ever been an urban site.

Due to problems with local banditry and terrorism, certain sections of the hills were rendered inaccessible. This was principally along the northern flanks, the area in which the walls were largely absent. Fortunately, large sections were available for study, including the stretch from Giriak to the Bāngāṅgā Pass.

The aims of the study were:

1. to determine whether any other major breaks in the fortification were present.
2. to study particular sections of the wall in the context of their location, in order to determine how effectively they would have functioned as defensive structures.
3. to see whether the wall was constructed the same way, and to the same height, all along its length.

4. to solve the ambiguity created by the marking of parts of the complex as road, and to compare the wall with Bimbisāra's Causeway on Ratnagiri.
5. to see whether any other structures, such as platforms or towers, could be placed in association with the walls.
6. to discover, in accordance with Marshall's suggestion, whether there was any evidence of a superstructure on top of the stone base.
7. to find any evidence that would provide a *terminus post quem* for dating the walls.

In the case of the existence of a city in the valley, the purpose was two-fold:

1. as with the Outer Fortification, the aim was to provide a *terminus post quem* for the inner ramparts by finding pottery and other artefacts in demonstrable association with them.
2. to determine whether every part of the Inner Fortification was constructed in the same way, and could be shown to have a defensive purpose.

I.2. Methodology of the Survey – in view of theory of survey developed in the past few decades and given the types of survey already completed on the Indian subcontinent, the following variable must be kept in view when planning or assessing a programme of work:

1. environmental conditions
2. conditions of accessibility (related of course to the environment).
3. the number of people, time and other resources available
4. the size of the area one wishes to cover

5. whether one is aiming at discovery of occupation or patterns of occupation, and if so, at what resolution.
6. the extent of previous survey and/or excavation in the region covered.
7. the degree of chronological resolution discoverable artefacts will provide.

The environment of Old Rajgir presented particular problems in attempting comprehensive coverage. In particular, several areas had thick scrub jungle cover; and there was also the problem of colluvium from the surrounding hills. In these circumstances the presence of large number of sherds on the surface could not be expected. The conditions demanded therefore as comprehensive a coverage of the valley floor as possible; sampling techniques would not have been reliable. And those areas where the surface had been broken e.g. by water action, were given particular attention. The size of the area needing to be covered allowed one to be confident that major features were not missed and that sherds from all representative periods were found.[134]

II. Diagnostic Sherds

The following are the types used in the fieldwork to make chronological judgements about occupation at the sites.

II.1 Black and Red Ware (BRW) –In the Middle Gangetic Plain BRW is found from the second millennium B.C. onwards, but predominantly from the Chalcolithic, where

[134] For a fuller discussion of surface survey and a justification of the project's techniques cf. Appendix II.

it is the most common pottery type. The ware is found mainly in the form of bowls (often with everted rims) and dishes, although forms such as the basin and jar also occur. It is wheel-made, generally plain and is created using the inverted firing technique. It is thus black on the inside, often burnished, and black also on the rims, red being confined to the exterior. In the Chalcolithic the fabric is generally porous and sandy, with the slip thickly applied, but fine pieces are also known. Decoration in the form of appliqué, impressed, or painted geometric designs, is also known. After the introduction of NBP it begins to decline in numbers and is confined in shape to mostly dishes and bowls. It disappears around the fourth century B.C.

II.2 Black-Slipped Ware (BSW) – Black-Slipped Ware marks the beginning of the early Iron Age in Bihar, from the beginning of the first millennium B.C. onwards. This early ware is wheel-made, with a black to grey-black core and is thick in section. The fabric is generally coarse and porous. Its most recognisable feature is the thick, nail-headed rim that in section is about a centimetre in diameter found on the bowls. BSW can be decorated with wavy lines of ash-grey, and can also be burnished. After the introduction of NBP the ware continues, but the thick rims disappear. The ware becomes finer and thinner, and is mostly found in the form of dishes and bowls, with the latter predominating. It becomes less common from the fourth century B.C. and eventually disappears.

II.3 Grey Ware – the plain grey ware is again a type that accompanies NBP. The ware consists mainly of bowls and dishes, though other shapes, such as the basin and vase are also known. It is wheel-made, thin in section, has a grey core and can be decorated with grooves near the rim. From the fourth century B.C. it becomes less well-made,

being thicker and with a darker surface. Bowls and dishes again predominate, but types such as the lipped bowl and the carinated haõóī are also found.

II.4 Red Ware – Red ware is ubiquitous, and when found as body sherds can be very difficult to date. A slipped red ware is found in association with NBP and is characterised by fine fabric and some burnishing. Shapes are similar to those found in grey and Black-Slipped varieties, but dishes outnumber bowls. Unslipped red ware has a medium to coarse fabric, is highly tempered, and has a black or red core. Some of the large pieces are hand-made, otherwise it was made on a slow wheel. The most common use for this form was for storage vessels, though basins and vases are also known. Incised or stamped decoration is quite common, and painted decoration has been found outside Bihar. This unslipped form appears before the rise of NBP and continues alongside it, including from the fourth century B.C.

II.5 Northern Black Polished Ware (NBP) – NBP is the key diagnostic sherd for the period of state formation up until c. 200 B.C. Its most distinctive attribute is the remarkable sheen on its surface, and this is what distinguishes it from, for instance a black-slipped ware. The gloss and dominant colour suggests it is a skeuomorph (i.e. a ceramic substitute for a metal vessel), but it does appear to be a deluxe ware. It usually forms a small percentage of assemblages in which it is found, and some repairs made to some examples indicate its status. Typical shapes are mainly dishes and bowls. Although the centre of distribution is the Gangetic plains, it has been found over a large area of India. And although black is the colour of about 90% of sherds it is also found in a number of others. These include steel-blue, bronze, pink, violet, silver and gold. Bichrome, with different colours for the exterior and interior is also known. Thus it is

not entirely northern nor completely black; and whatever the method of production, its sheen is not a polish. Nor is it a glaze, since it does not involve the breakdown of the clay into an amorphous crystalline structure. Rather it is a treatment of the slip, using in particular ferric oxide[135]. It can therefore be described as a gloss, using the term defined by Bimson for Mediterranean black and red wares (1956, p. 200).

III. The Cyclopean Wall

Marshall had provided an account of the wall's construction, and a scientifically produced map, during the 1905-06 season. However, there were several anomalies. The first was the structure's uniqueness; no other stone wall of its type and of its length (covering a distance of 40 to 50 km) is known from Early Historic India. Perhaps the best parallel to it is the system of walls constructed at its borders by the Vijayanagara Empire some two millennia later. Secondly, although the assumption had been that its construction must be linked to its years as a capital city, no-one had recorded any structures or artefacts that linked any section of the walls to a particular date. Thirdly, Marshall's team had found a major gap in the northern line of the Hills, but had presented a continuous line along the southern flanks from Giriak to the Bāngāṅgā Pass. Fourthly, the map of the walls found in the Rajgir Guide differs significantly from the Marshall plan, most especially because it shows the Outer Fortification to make a continuous circuit around the hills. Finally, some of the sections of wall seemed to have no obvious defensive purpose. This included sections on Ratnagiri, and a branch on Vaibhāra that runs behind and parallel to another wall. The draftsman marked this as a road, although Marshall had regarded this as a mistake. But the Rajgir *Guide* had also

[135] Cg. Section IV of this chapter.

marked it as a road. Furthermore, Bimbisāra's Causeway had been regarded as a road and called such by Xuanzang, but the similarity of its construction to the Outer Fortification had led Marshall to regard it as originally part of the complex.

The fieldwork began with a walking along as much of the cyclopean wall complex around the inner valley as possible. A record of the walls on each mountain has never been done before; rather, they have been considered as part of a general feature.

III.1 Vipula - One stretch of the wall runs along the Vipula side of the pass that gives access to the north of the valley (Fig. 37). The wall connects the "Mahāvīra stūpa" at the northern end of the pass; while a square of stone blocks, (usually labelled a watchtower) is at the southern end. The latter actually encloses a square mound at its base, the mound measuring 19 metres north-south and 15 metres east-west. On top of it is a small, square Ganesh temple **(12.)** (Fig. 32), with a small marble image dating to the 13th or 14th century A.D. Behind it is another, roughly circular mound, measuring c 10.5 metres north-south by 13 metres east-west. Brickbats covered its surface. The combination of these two shapes is suggestive, not of a defensive structure, but a Buddhist caityagṛha[136]. Just below the wall was found a piece of red ware, a rim that was incised near the neck and carinated. Below the "watchtower" is another structure, or rubble arranged in three courses, and brickbats lying close to it.

The wall has been largely eroded away, although it is still visible. Towards the southern end, stones at the base are quite large (e.g. 68.3 x 4.7 cms), while many smaller stones

[136] The GPS reading: was N25° 0.686' E85°25.266' FOM 11.29m. FOM stands for Frequency of Merit. It is the margin of error, which changes according to the configuration of satellites and the extent of deliberate distortion by the US military. Unfortunately, the fieldwork was done before the recent decision by the US Government to discontinue the distortion signal.

are present on the top and on the slope below. On the valley (western) side of the wall the drop is quite steep, but on the eastern side (from which attackers would be expected to come) the wall is barely a metre high. Slopewash does not appear to be a sufficient explanation for this. The wall was measured at two points, and both were of the same width - 4.7 and 4.6 m. Some bricks and red ware sherds were found along its length; at three points, roughly circular concentrations of bricks, each about half a metre across, suggested small, decayed stūpas.

Much of the wall has disappeared, but a well-preserved section is near the Mahāvīra temple, and runs for about 30 metres, crossing a small gorge, until ending at the stūpa mound. It consists of earth and unworked stones, with those stones near the top being rather smaller (e.g. 17 x 12.2 cms), than those nearer the bottom (e.g. 27.2 x 15.2 cms). There were many brickbats embedded in the earth, as well as some red ware on the sides of the bank, including the base of a miniature jar. The width at the top was 2.3 metres.

The mound below the temple is extremely large, approximately 40 metres high. Very little is said of it in the literature and there are no reports of sculptures found here. But it was clearly a stūpa, and stones and brickbats litter the surface.

III.2 Vaibhāra – The wall on Vaibhāra was followed to a point beyond the Saptaparṇī Cave, until safety considerations forced a halt. The two branches of wall on the northeastern edge of Vaibhāra were examined, including the "old road" leading downwards in a southeasterly direction. It is clear the only reason it was labelled a road is its lack of defensive utility; it is far too close to its neighbour to have any obvious

function. Interestingly, the local belief is that it was built by the Jains to get to their temples; but in size and construction it is identical to other parts of the Outer Fortification, with three courses of large stones, and an infill of smaller ones, and also of similar dimensions, being 5.8 metres across and 1.1 metres high.

Along the northern face of Vaibhāra the fortification wall is not far away from a steep cliff edge. Indeed two "bastions" on the wall are right on the edge, and consist of level (probably artificially levelled) ground, and a reinforcement of the cliff-face with large stones[137] in a manner reminiscent of the platform in front of the "Sattapaṇṇi Cave". The bastion or terrace that could be measured was 15 metres across. No sherds or any other material were found along the wall on Vaibhāra.

III.3 Ranbhumī – The section of Outer Fortification that runs on the valley floor connects Vaibhāra with Sonagiri. Associated with it, in the area of Ranbhumī (**23.**), is an earth-filled, square stone structure, in size and shape identical to watch-towers elsewhere at Rajgir[138]. The rampart here is of a completely different character to its counterparts on the hills, being made up largely of earth (with a few medium-sized stones). It is also on a far larger scale, being about 10 metres high and 7.5 metres across. It is divided at the stream which flows near the Ranbhumī, there being a gap here of about 30 metres. This suggests a gate, though no ancient material suggesting this was found. However, the modern path from Jethian through the western arm of the valley to Rajgir runs through this gap. The watch-tower shows this route to be a very ancient one.

[137] The first was at N25° 0.357' E85° 24.557' FOM 10m, the second (the one measured) at N25° 0.311 E85° 24.481 FOM 15.89m.
[138] Located at N24° 59.957' E85° 24.723' FOM 11.62m

III.4 Ratna - The Zigzag Wall **(20.)** is the strangest section of the Outer Fortification, and runs up the eastern slope of Ratnagiri. The wall runs straight up the hill, before veering from side to side and petering out.

The position of the wall makes little sense from a defensive point of view. Furthermore, the side facing the valley is higher (c. 2 metres) than the slope side (c. half a metre). The difference cannot be put down to slopewash, since on this part of the mountainside there is only bare rock. Here is to be seen one of the main objectives of the builders, to keep the top flat. Eventually, the wall gives out near the top of the hill[139].

Not far from the site of the Jain temples, and almost directly opposite the Sonbhāndār Cave, is what appears to be a watchtower; it has at least a clear view across the entire valley. It is very near the modern road to the temples, but is clearly not connected to it, and is now overgrown with scrub. Its location is 25° 0.292' E85° 26.122' FOM 10.78m.

The wall runs at the back of the temple site, and continues to the crest of the hill (**14**). There it meets the wall that runs continuously along the crest from Ratna through to Chhāṭhagiri[140]. The width of the wall here is 4.4 metres; the height is approximately just one metre. Anyone using this wall in order to watch over long distances would find the view here, and along the crest, to be excellent, especially for the plain to the northeast of the hills.

[139] At N25° 0.073' E85° 25.922' FOM 12.5m.
[140] The meeting-point is at N25° 0.401' E85° 26.293' FOM 9.91m.

The wall runs along Ratna to the east, i.e. towards Chhaṭhāgiri. The height is very variable, with dips and rises, but in places the northern side was as high as c. five metres - in other words, it would have been useful defensively. But as one moves further away from the Jain temple site, there are portions where the wall has almost no height at all. As usual the top was covered with small stones, although some larger ones were noticed in places (Fig. 33).

III.5 Udaya – The Udaya Wall was followed as far as the Jain temple. It begins at the Bāngaṅgā Pass[141], and there is made up of three courses of large stones, with smaller ones scattered on top (Fig. 31). The absence of debris around it, and also (with two exceptions) of bricks - indicative of a superstructure - suggests the wall is substantially intact. Where measured its width was 3.7 m. The area immediately behind it is quite flat, and suggestive of a ditch. A square, flat-topped bastion is at the top of the pass, facing an equivalent on Sonagiri. Both are filled with rubble. The Udaya bastion's basal length is c. 15 metres, its width is 4.3 metres and its greatest height is 2.6 metres. The stones that fill it are of medium size (e.g. 29 x 22 x 13 cms). There is no sign of any entrance or rooms, although conceivably there may have been a superstructure on top. However, no bricks were found there. Close by is another square bastion, on top of an earth bank on a steep part of the slope. Many bricks were embedded in the earth here.

Further along, near the Udaya temple, is an oval depression, and nearby is a circular structure (at two points it measured 5.5 and 4.9 metres across). It has a stone foundation that is 80 cms high, and is filled with earth and a few brickbats. It is almost the remains

[141] At N24° 58.846' E85° 25.775' FOM 9.3 m

of a stūpa, and has a wonderful view of both the valley and the plain outside. Its position is N24° 55.943' E85° 25.883' FOM 9.15m.

It was immediately noticeable that both here and on Sonagiri the walls are much higher (nearly 3 metres) and more solidly built than those anywhere else. This is puzzling, since we found no evidence of any settlement anywhere near the south of the valley; and the bare rock and thin soil of the south makes any settlement here unlikely. The presence of bastions on either side of the pass indicates it was some sort of a gate; but it is noteworthy that none are found elsewhere on Udaya.

III.6 – The Southern Walls – It was decided to see how far the Outer Fortification extended along the southern hills, and if it did indeed reach Giriak. The wall does extend eastwards for several kilometres (Fig. 34), and it is immediately obvious that its position allows it to be seen from outside the valley and any observer can, in turn, see for many miles across the southern plain. However, the valley itself cannot be seen, as the wall is far below the hill peaks.

Local villagers call one of these hills Vaiśākhi, and on top of it is a rectangular watchtower, built into the side of the hill[142]. On its southern side it is made of 16 courses of medium-sized stones and seems to be filled with earth and small stones. Just to the north of it is another tower[143], though of a different shape and with wide ramp of earth and stones on its southern side. There appears to be a path, defined by a single course of stones on either side, linking the two structures. Like the watchtower, this second

[142] At GPS N24° 59'.435' E85°27.298' FOM 37.1m
[143] At GPS N24° 59.502' E85° 27.169'

structure is built into the (northern) side of the hill, but it is a semi-oval in shape. It is filled with earth, but there are also pieces of brick; the area is nearly a hectare in size. Although directly opposite Chāṭhagiri, the peak of which is visible, one cannot see the valley below, and it seems redundant as a watchtower. Its size and shape suggest the remains of a stūpa (Fig. 35).

Already by this stage the wall is very low and barely visible in places. It next appears significantly near the Panchāna river junction, at Maswāra Ghāt. Here a short bridge has been constructed over a small defile (Fig. 36). The bridge is of many courses of unworked stone. But to either side there is little, only stones defining the pathway of one or two courses. Next to the village of Madhubān the wall appears again, but is not continuous and seems to be similar in function to the Maswāra example. As with the rest of the Outer Fortification on this side, the wall is clearly visible from the plain. And allows no sight into the valley.

III.7 Conclusion – The similarity of construction technique first noticed by Marshall (cf. pp. 87-89 for details), with the exception of the Vaibhāra-Sona stretch, suggests contemporaneity, and allows a number of generalisations to be made.

The first is how poor a defensive system the walls make. In most cases they are not very high, and often the side from which attackers would come is lower than the valley side. On most occasions there was no evidence of fallen debris to indicate the walls had been any higher than they are now. The only areas where walls are high enough to be considered defensive are on Sona- and Udayagiri, on either side of the Bāngaṅgā Pass. And why was such effort put in to building walls all the way to Giriak and back,

whereas the western side of the valley was closed off?.[144] It is notable that the reason for the outer side being consistently higher than the lower was that the top surface was kept flat. This made the wall very easy to walk on, and indeed during the survey it was found to be by far the easiest way to walk along the mountain. And the fact the top was meant for walking on is shown by the fact that the stone infill is present up to the surface without being capped. One reason for this is that in wet conditions the rains would soak into the infill and the surface would provide adequate grip for walking.

This suggests why the Chinese pilgrims of the mid-first millennium A.D. rarely mention them, for they believed them to be roads. Indeed, this is what Buchanan believed the Ratnagiri sections to be when they were pointed out to him (Jackson, pp. x, 137). And there are indications that this is how they were perceived by locals well into the nineteenth century. Broadley indicates the Vaibhāra wall was used as a path to the Jain temples when he visited them, and local tribespeople regarded it as "Jarāsandha's Staircase" (1872b, p. 240). And the wall complex as a whole was believed to be where he took his evening walks (1872b, p. 249). It can be argued that this is principally what they were, a means of communication. It allowed people to move relatively quickly over the hill-slopes. This is certainly what Bimbisāra's Causeway had become, and it may have been Ji Ye's "sinuous path". The question of why they were originally built has still to be answered. As well as the "Jain pilgrim" road on Vaibhāra, the Udaya wall was also pointed out as being of Jain construction. But since it goes as far as Giriak, albeit discontinuously, this is unlikely. It could once have been a Buddhist pilgrim circuit, but if so it would be unparalleled. And the

[144] Although a line of wall is marked on the map as extending west from Sonagiri in the direction of Jethian.

Bāngāṅgā walls at least are clearly defensive. It may possibly be due to the hills themselves. The emphasis in literature, going back to the *Mahābhārata* and the Chinese, is that the hills protected the city. But when one visits the area it is not long before one discovers that they are Rajgir's greatest danger. It is where bandits hide, and in the past they sheltered leopards and bears. The ancestors of the local tribal people, the Rajwārs, may also have lived there, since their language (Ādivāsi) is non-Indo-Aryan. They may also have been a problem for the city, as they have been up until recent times. So the mountains are at best a mixed blessing. It can be argued, then, that these structures were built to pacify the mountains, as well as to act as observation points for the valley within and plains without. Just why they extended to Giriak is still a mystery, though clearly Giriak was of great importance in the Early Historic period (cf. Chapter Seven).

A *terminus ante quem* is provided only at certain points. The red ware pieces found on the Vipula stretch were only body sherds which, by themselves, are not so useful, since red ware was made up until the seventeenth century. But there are also the stūpa sites on Vipula and Udayagiri, which are on top of cyclopean stones. It is possible that some of these date to before the time of Christ. However, most Buddhist material found in Rajgir, as well as the Gupta stuccoes at Maṅiyār Maṭh, belong to the mid-first millennium A.D. or later. One can say with confidence that the Outer Fortification can be dated to 500 A.D. or earlier, though the sheer size of it would make one wish to place it during its period as a capital.

The southern wall has been shown to run for several kilometres from the Pass, but to become a mere pathway soon after. Again, this suggests a communications function rather than a purely defensive one.

IV. The Inner Fortification

IV.1 Mound 1 (10.)- Immediately to the south of the northern pass between Vipula and Vaibhāra, there is a long, low mound (Mound 1) between the main branch of the Sāraswatī[145] on the west, and the modern road (which follows the line of the ancient one) to the east (Figs. 38-41). It is called the Jārādevī Mound, after the temple to the Asura who nursed Jarāsandhā. It is included in published plans as part of the Inner Fortification, and is described as such by Ghosh (1951) - even though the material he found when he excavated a small part of it was stratified in a way not suggestive of a rampart[146] It rises gradually on the side of the road, does not achieve much height until after the temple, and is never more than five metres high. Fortunately, the river has eroded away part of the bank, with the result that much of its contents have been exposed. There are literally hundreds of potsherds eroding out of the mound on the river side. Most are coarse wares, in shapes such as vases and hāṇḍis. We also found some Black-and-Red Ware sherds, some of which appear to be Chalcolithic. A vase of corrugated red ware, with the corrugation just below the rim, was the most interesting piece found. There was also a sherd of grey ware of medium fabric, with two horizontal black painted bands on the exterior, about 0.5 cms wide. Although it is only a body

[145] The stream is now known to locals at present as the Godāvarī River. However, it will be referred to by the name found in all published reports to avoid confusion.
[146] Cf. Chapter Five, Section XIV.

sherd, it is tempting to describe it as a piece of Painted Grey Ware. Significantly, only one piece of Northern Black Polished Ware was found.

IV.2 – Mound 2 (11.) - East of the modern road lie a series of low mounds, extending east in the shadow of Mt. Vipula, lying on the south bank of a branch of the Sāraswātī that rises on Ratna and joins the main stream just south of the pass. This is all that remains of the northern line of the Inner Fortification (Figs. 43-44). The bank is never very high, approximately two metres at most. Along the stream bank that formed the edge of the largest mound (called Mound 2) were found many more deluxe wares than on the Jāradevī Mound. They included NBP, black-slipped, grey and red wares. There was also a terracotta ball, a plain terracotta disc and a sherd with basket-impressed decoration. Some stray pieces were also picked up at a couple of points along the south bank of the Sāraswātī. The chronological range of these sherds is wide, and begins with black-slipped bowls with nail-headed rims dating to the early first millennium B.C., before the advent of NBP. The NBP sherds were of good quality, thin in section and well-made. They included a bichrome piece and some steel-blue fragments. The latest piece that was datable was "black-and-buff", a BRW variant found in the latest NBP levels. However, the numbers collected here (c. 20) were not comparable to those found along the first mound. Although not far from the stream, the lack of abrasion suggests these sherds have eroded from the rampart.

Other features included a ring well embedded in the north bank of the stream. There were also some curious stone slabs with cup marks in them that were obviously artificial. A local story refers to this area as containing "underground" houses; there were some brickbats lying nearby.

Further to the south, along the main road, are a number of mounds with stones, but no brick, on their surfaces. On one of them a terracotta ball was recovered, and a pit contained a couple of coarse sherds.

Given the contemporaneity of the two mounds' pottery it is not likely that they form discrete settlements, but are a single site. The modern road follows the path of an older one (to judge from maps produced earlier this century), and the channelling effect of the Vipula-Vaibhāra pass means any route south could not be anywhere else; so these two areas may always have been either side of a road.

IV.3 – Other Sections of the Wall - The northeast portion of the Inner Fortification has a definite association with a feature, the Purāṇa Talāb (**15.**)[147]. The wall changes direction in order to avoid it, suggesting the tank may be older than the wall. The tank is now little more than a marshy pool, and unfortunately, nothing was found in its vicinity.

The eastern wall, however, proved to be significantly different from the northern. Here, it is of earth, but also a large proportion of medium-sized stones. Since the earth has spread outwards quite significantly, the original size of the wall is impossible to estimate. However, there is no sign (e.g. stone debris at the base) that it was much higher than at present. It can be between c. 2½ - 3 metres high in places, but elsewhere is also significantly lower. The width at the top is c ½ a metre.

[147] Located at N25° 0.391' E85° 25.587' FOM 12.38 m

South of the Purāõa Talāb was a large gap. This "East Gate"[148] was of a size (c. 11 metres across) that ruled out water damage, but was featureless. Very close to it was found the only piece of dating evidence for the eastern wall: a sherd of fine grey ware. If *in situ* it would date the wall to the mid-first millennium B.C., but as it was found lying on top, this would be difficult to prove.

As the bank moves into the centre of the valley it becomes smaller in size, and eventually merges into the Nekpai embankment on the southeastern side of the plain.

The southern side of the Inner Fortification is earthen like the northern rampart. In height it is c. 1.5 – 2 metres high and c. 2 metres wide. There is evidence of spreading, as height becomes highly variable as one progresses further west, and the bank is steeper on the northern side than the southern. A 20-metre gap[149] may indicate a gate, although no stones or other indications of a structure were found. After this point, and towards Sonagiri, the bank becomes very low, and has no north side.

Along the western branch of the Sāraswatī, from a point approximately parallel to the Sonbhāndār Caves, some red and black-slipped sherds were recovered. At the same point a bank starts to run along the eastern edge. On the river-side it is steep, but barely a ½-metre on the other side. The bank is breached at several places, and these are probably from water flows. This western line connects with the Jāradevī mound.

[148] GPS reading N25° 0.293' E85° 25.632' FOM 9.24m
[149]At N24° 59.589' E85° 25.790' FOM 12.08m

IV.4 Conclusions – Some evidence of embankment along the Sāraswatī still exists, and is highest at the northern end, underneath the Jāradevī temple. It is undoubtedly the temple that has saved it from development, and one can only speculate what lay further along the line of the old road. The sheer number of sherds from the Jāradevī mound, the clear evidence of stratified levels, and the testimony of the Ghosh cutting from 1950, raises a question mark of its status as part of the Inner Fortification. Instead, it indicates habitation from the Chalcolithic through to the Śuṅga period (if one is allowed to rely on a single figurine). This in turn raises a question mark about the existence of a western wall along the east bank of the Sāraswatī. If evidence of occupation can be found hard up against the river, it might be that Cunningham's 1872 map was correct in placing this wall on the other side of the river.

The northern wall can now be shown to contain a number of sherds dating to the mid-first millennium B.C. The NBP found there is of a fine quality, with a variety of colours, including blue and gold and silver. This distinguishes it from the pottery produced during the later NBP period (i.e. from c. 300 B.C.), and it can be confidently dated to the early NBP period (c. 700 – 300 B.C.) Although the bank faces a stream, the condition of the sherds is such that they are not likely to have washed onto the bank. And if they had, the stream only runs a short distance, parallel to the bank, until it reaches the main branch of the Sāraswatī.

Naturally, pottery from a rampart only provides a *terminus ante quem*, rather than a definite date of construction. Nevertheless, it is notable that no later pottery was found in association with these finds. And if, as most likely, the soil came from the immediate area, it points to habitation within the valley.

The eastern wall contained nothing that one can date with confidence. But it is interesting that its construction differs from the northern in that the earth contains far more stones.

V. The Valley Floor

V.1 Ratna Road/Jail Area - The main road and the pathway up Ratnagiri to the Jain temples are linked by a dirt (kācchī) road. Not far from its southern edge is a series of pits, most likely dug during periodic resurfacing, and covering an area of about a hundred square metres. In a number of these pits we found pottery only centimetres below the surface, about a hundred in total. Their location is N24° 59.889' E85° 25.698' **(18.)**

Pit 1 was at the eastern end, nearest the mountain. The pit measures c 4 m N-S and 3.3m E-W. At the southern end it is about a metre deep, but is only a few centimetres deep on the northern (road) side. All the sherds were found along the edges, and consisted of non-diagnostic pieces of black, red, and NBP.

Pit 2 is deepest on the road side, where it measures 1.2m. It is 3.8m long N-S and 4.75 E-W. Red ware predominated, but there was one grey piece and the occasional black-slipped. No NBP was found. A terracotta animal figurine (Fig. 69) was also recovered.

Pit 3 is 0.7m deep in the south, a few centimetres only on the road side. It measures 10.25m N-S and 4.5m E-W. A small terracotta weight was found, as well as a curious

fragment of white stone, about 2mm thick, roughly circular and with a bevelled edge. At present it is not certain what it is or even what material it is made out of, but analysis is continuing. One piece of a coarse bowl rim, numerous red ware fragments, a few black and BRW pieces and a grey sherd were also recovered. Stones here are embedded both on the surface and in the sides of the pit, which is on a long, flat slope.

Pit 4, which is much shallower and less defined, had a red terracotta bead embedded in its west face, as well as a shapeless terracotta lump. There was also a rim of a small black bowl, the rim being recessed to fit a lid.

Pit 5 is roughly circular, with its south side c 1m deep. It also produced a terracotta ball, as well as some grey and fine black wares. The most noticeable sherds, though, were the NBP pieces, including one of pink colour.

The area in which they were found is quite stony, and there is no pattern that would make one associate these stones with the remains of structures. But here as elsewhere their distribution is predominantly on the tops of high ground. This was first noticed by Jackson (1917), who argued that the mounds cover ancient remains. Through it runs an intermittent stream (parhinālā), which only runs during the monsoons. At two locations on or near its bank were sherds; revealed some black and grey sherds and a pot-shaped, grey bead[150]; and a grey and some red sherds[151].

[150] At N24° 59.879' E85° 25.668' FOM 11.62m
[151] N24° 59,721' E85° 25.784' FOM 11.13m. A stony mound with a single piece of red ware was at N24° 59.828' E85° 25.797' FOM 14.06m.

V.2. Other Areas - The most significant feature in this part of the valley is "Bimbisāra's Jail"[152]. This was the only building Jackson was able to discover, and despite its size no pottery was ever recovered from it. The area between it and Ratna Road was examined to see whether any artefacts could be found there. Little was recovered but a long, low mound was identified[153]. It is full of stones, with many of small size scattered along its eastern side, with a gully along its western slope. Its height is c 1m, and its length about 30m; though given the thick jungle that covers it this is only a vague approximation. The "Stone Structure" marked on the map in the Rajgir *Guide* (but without any comments on it in the text) is supposed to be just to the north of the Jail, and appears to be a low, rather shapeless ridge with many medium-sized stones and some bricks scattered over a wide area around it. At the edge of a pit next to this ridge was found one piece of coarse ware and many tiny fragments of red ware[154]. Clearly, these features can only be elucidated by excavation.

The other find was a pit near the main road, which is full of bricks (measurements of which were 20 x 14 x 5 cms)[155].

V.3 Conclusion - NBP and its associated wares (red, grey, black-slipped) were found in abundance. What is most interesting, however, is the presence of older wares. Although none of the BRW pieces can be definitely dated, some coarse pieces have paddy-husk specks in the fabric, which would indicate a Chalcolithic date. Some black-slipped sherds with thick rims date to the pre-NBP Iron period. There is thus a

[152] The inner measurements of the Jail and found them to be 49.35m (north wall): 47.9 (east): 49.9 (south): and 48.2 (west). However, conservation work means one can only take this as an approximation of the original size.
[153] N24° 59,763' E85° 25.740' FOM 10.71m
[154] At N25° 0.268' E85° 25.330' FOM 14.67m.
[155] Its location is N25° 0.304' E85° 25.318' FOM 12.69m

continuous pottery sequence from the Chalcolithic to the NBP period (which ends in the second century B.C), and thus (possibly) a continuous occupation sequence. Since material of all periods was found in Mounds 1 and 2, and in the pits along Ratna Road, there is evidence of widespread occupation in the valley in the first millennium B.C. The presence of stone and brick debris reported as covering the area last century (Broadley, p. 273) is also encouraging. However, the many pits that did not yield pottery should make one beware of assuming that such occupation filled the entire area within the Inner Fortification. Of course much material must date after the move of the town; it is unlikely that baked brick was widely used in the time of Ajātaśātru. Red ware is notoriously difficult to date, and much of it probably comes from later occupation also.

VI. New Rajgir

A modern road, built only in the last couple of decades, now bisects the citadel area (Figs. 45-47), and cuts through the northern and southern walls. Along the section to the west of this road most of the rampart top is covered in bricks that are embedded in the earth. The wall in fact looks less like an earthen embankment than a brick structure with earth covering. On the north side there are several stone bastions, semi-circular and filled with earth. Interestingly, none of them are to be found more than about 100 metres from the road and gates; and the same is true of the southern entrance also. Along the southern wall there is evidence of mortar, and an abundance of the small, thin bricks indicative of Mughal work embedded in the embankment. It seems, then that this part of the wall was repaired relatively recently, and lends support to the story first recorded by Buchanan that attributed the wall to Sher Shah (c. 1486–1545), (1936,

pp. 198-199). It may be imprudent to give too much weight to a traditional story, but it is worth recalling the tale of Sher Shah and the milkmaid (1847, pp. 956-957) in this context, and it might preserve a memory that the works were not completed. Whether this is true or not, these bricks are the only surviving evidence for later repairs to the fort, but Broadley shows that at least in one of the towers he describes (the northwestern) there were also very small (presumably Mughal) bricks (1872b, p. 231). No evidence of occupation in the form of Islamic glazed ware was found. However, several pieces of Early Historic pottery, including NBP, were found.

The gap in the western embankment that faces the stūpa complex has been assumed to be a gate, and certainly brickwork has been exposed here. On the "gate's" southern edge the embankment rises to c. ten metres and has eroded and been dug away, exposing a large number of sherds, and an ash deposit. Pottery found near it is apparently later, about the third to the second century B.C., while just around the corner were sherds dating to the middle of the first millennium B.C. Remains of the brick wall are best seen at this point (Fig. 48). This southwestern stretch of the wall is one of the highest found in the citadel complex, and is in marked contrast to the northwestern wall, which is quite low.

On the wall to the east of the modern road there are again bastions, and these extend further from the road than those on the western side. But nearer the gaps their concentration is greater; with only a few metres separating them. There was, uniquely, a square bastion on the inner (south side) of the northern wall.

As in the west the wall's foundation is a line of three courses of large stones. At the southeastern corner it rises suddenly and runs along the top of the earthen embankment first recorded by Buchanan (1936, pp. 198-199; Jackson 1925, p.129). It is likely that it was the presence of the wall that has preserved this section, since there was no continuation of the bank eastwards beyond the corner; indeed the main road into the town runs next to it. Significantly, only a few black and grey pieces were found until just before the southeastern end was reached, but the number of sherds increased significantly as the corner was approached. Both black and Black-and-Red Ware (of NBP-period date) pieces were collected. On the edge is a mound with a circular brick platform[156], indicating a stūpa had once been there. As on the western side there was an abundance of brick. If one were to agree with Roy that baked brick was in widespread use only from the fourth century B.C. (1983, pp. 129-138), then it is unlikely the brick superstructure can be attributed to Ajātaśātru,

Within the citadel, there are mounds still on the western side of the road, though the plentiful ruins seen in the nineteenth-century are now gone. No-one has anything to say on the distribution of these mounds within the fort area, but at present the eastern side is so flat that it is used for cricket, public meetings and military parachute jumps. It is most likely that the area was cleared. One of the more prominent mounds to the west is a rectangular platform set against the northwestern rampart and measuring about 100 metres^2. Marshall's excavation and coin finds have already shown that materials from the last centuries B.C. are present, but no definitive evidence, apart from pottery embedded in the rampart, has shown earlier occupation here.

[156] At N25° 1.292' E85° 25.330' FOM 14.37m

The presence of NBP-period sherds on the surface of these embankments raises the question of when they were built. The Black-and-Red Ware pieces in particular might suggest an Early NBP date at least. It is also worth noting that the defences around the northern pass are not as elaborate as those on the south. There is not the same sequence of bastions, only a set of watchtowers. The locations of both the Pippala Stone House and the Sītamuri above it mean that they face inwards, looking at the pass, not outwards, onto the northern plain. The implication is that something must have been outside the pass that gave adequate protection, to explain why the North Gate appears to have been less well defended.

The citadel does not define the extent of Early Historic occupation outside the valley. Although nothing was found in the modern town, a number of Early Historic sherds (though not NBP) were found along the Sāraswatī, and in the area just south of the southern citadel wall.

CHAPTER FIVE

GIRIAK AND ITS IMPORTANCE FOR RĀJAGṚIHA

I Introduction

The end of Rajgir's role as a major capital is not a mystery. The expansion of Magadha, particularly into what is now north Bihar, required a centre from which all parts of the kingdom were more easily accessible. And Pāṭaligrāma, the future Pāṭaliputra, was already an important node on the Uttarāpatha trade route network of northern India – indeed it was Rājagṛiha 's principal point of connection to it (Chandra 1977, pp. 1-19). The route between them lay more or less where it still does, through Ambalaṭṭhikā (probably the modern village of Silao) and Nālandā[157]. What requires explanation is Rajgir's original status. Its geographical location is an anomalous one for a royal city. It occupies a peripheral position on the Gangetic plain, and although the southern limit of the zone of settlement at the period of its foundation is unknown, it cannot have been too far from that boundary. The other significant feature of its position is that of all the major Gangetic cities it alone is not associated with a major river. Despite glowing descriptions in Buddhist sources, the streams in the immediate vicinity of the site are not large now, and barring major hydrological changes in the past, never were. The nearest large river is the Panchana, which flows to the south and east, and the Phalgu near Gayā.

[157] Nālandā was a junction point, since a road also ran from here to Gayā. Its position on the trade routes must have been one of the principal reasons why the Buddhist university developed there.

A clue may be Adams' observation concerning Mesopotamian cities, that they rose at junctions between ecological niches, in order to mediate resource exchanges (1966, pp. 49-52). Rajgir occupies an intermediate position between the Gangetic plain and the Chhotanagpur Plateau to the south. As with other urban civilisations based on alluvial plains, a geographical disjuncture existed between regions of maximum agricultural fertility and regions capable of providing both luxury goods and basic raw materials. The Plateau was a rich area of such resources, including wood, copper and iron. Command of these resources would have given Magadha a significant economic advantage in terms of its competition with other kingdoms, and could have played an important role in its evolution from a small territory to a large empire under both the Nandas and Mauryas.

Unfortunately, the details of how such resources were extracted are not available in the textual record. Although it provides information on major routes and makes frequent reference to merchants and merchant guilds[158], it has little to offer on what was traded (Rhys Davids 1901, p. 872; Mishra 1954) and non-luxury items are barely mentioned. Nor do the texts have much to say on the networks of smaller routes in a region that must have complemented the large, inter-regional ones.

This chapter will attempt to shed some more light on Rajgir's place in these routes. In particular, it will attempt to show what is now the modern town of Giriak was an important part of the Rajgir complex, and that despite the evidence for a close connection, this role has been hitherto largely ignored.

[158] For details cf. Chandra 1977; Rhys Davids 1901; Fick 1920

Giriak is a medium-sized town located at 25° 1'N 85° 3'E on the east bank of the Panchana. By road, it is nowadays connected with Rajgir via Nālandā, but there is an old road that runs along the northern range of the Rajgir Hills. This range terminates in Giriak hill, the town's namesake, which lies on the other side of the Panchana. As at Rajgir, the road from the south brings traffic from the Chhotanagpur Plateau. The oldest part of the town is nearer the river, and immediately to the south is the Dāktar English mound, an occupation mound that runs along the bank for a considerable distance. Directly opposite this mound is the ford that provides access to the west bank. Some Hindu temples are on the lower slope of the mountain, and at the summit are a series of Buddhist structures. It is these structures that have attracted most comment from visitors, ancient and modern alike. The most immediate link with Rajgir is the stretch of Outer Fortification that runs across it.

II The Chinese Evidence

It is important to present what Faxian and Xuanzang said (or may have said) about Giriak because their presence there helped to structure debate about the site in a manner similar to Rajgir. Xuanzang had proceeded from Rajgir to Nālandā. From here, travelling southeast, he reached the Indraśailaguhā mountain. It had two peaks, west and east. On the south side of the former was the cave in which Buddha had lived, and in which Indra had written (in stone) the 42 questions that he desired Buddha to answer. On the eastern peak was the Haṃsa monastery. This, he claimed, was named after a goose that had dropped from the sky at a time when the monks' restrictive Hinayāna dietary code had resulted in hunger. Its example prompted them to convert to Mahāyana and to build a stūpa over the goose, which stood in front of the monastery

(W p. 173). Faxian contributes little more to the description. He refers gnomically to a hill of an isolated rock and mentions a monastery, (though not a stūpa) and does not refer to the haṃsa legend. He went directly from here to Rajgir, and between them describes visiting Nāla and the stūpa marking Śariputra's birthplace. This was southwest of the Indra cave, and Rajgir was a further yojana west of Nāla (Giles p. 49). Xuanzang also visited the town, and makes it clear it was distinct from Nālandā, the latter being about 30 li away. The Indra cave was over 30 li to the east. Ji Ye's location of Śariputra's birth stūpa just to the north of the Rajgir hills (Huber 1902, p. 258) confirms the general whereabouts of the village. Nāla indicates the same tradition was not being applied to different hills[159], and that the directions, vague as they are, suit Giriak.

Xuanzang also refers to Kuśāgrapura as being 150 li in circuit (Watters p. 148), which would mean including the whole of the eastern valley up to Giriak. This implies he regarded the Haṃsa monastery as part of the Rajgir area, but he does not state this.

III Previous Surveys of Giriak

Buchanan visited shortly before his tour of Rajgir. Since he was not trying to find the Indraśailaguhā, it is no surprise his information on the city mound is the most extensive. He describes three tanks to the south of the village, "Dobra", "Dunsar" and "Puraniya" and between them a long mound made up of earth, stone and broken brick, measured at c. 2500 feet long and c. 500 feet wide (c. 762 x 152 metres) It was divided into two

[159] As claimed both by Fergusson (1872, p. 229) and by Broadley (1872b, pp. 265-266

parts, the northern being about 80 feet (around 24 ½ metres) at its highest[160]. The southern was much lower, but on its eastern and western sides had projections that he took to be gates. At the top of the hill was a square fort, surrounded by a ditch, called "Boragora", and remains of another building on the east side. Two small mounds lay just to the north of the larger, and on one of these was a recent Śiva temple. Various Hindu images, broken or entire are also described as being present. Buchanan believed it to have been a palace. One informant told him the old name was Haṃsanagar, but since no-one else knew of this, he dismissed it as a silly story (Buchanan 1936, pp. 170-171; Jackson 1925, pp. 109-111).

He then climbed the hill and past three Hindu temples, then followed a road paved with stone blocks, the road being about 12 feet (c. 3.6 metres) wide, widening to a maximum of 18 feet (c.5.5 metres). He noted a tank, cut into the rock on two sides and built up by stones on the other two. At its base was an image of a woman with a child on her knee[161]. East of it was another Jārasandha's Baithak, described as being on a square pedestal with a base 68 feet (20.7 metres) in circumference. The monument was in good condition, though a hole had been dug on the western side.

To the west of the tank, and up a flight of stairs, was a ledge, which he describes as an open court, probably with a wall around it, though he does not mention seeing traces of the latter. At its western end were ruins covering an area 26' x 48' (c. 8 x 14 ½ metres), the northeast corner of which was still in good condition and made of bricks 18" x 9" x 2" (c. 47 x 23 x 5 cm), set in clay mortar. Eight granite pillars were identified. Another

[160] This in the *Journal*; in his report he describes it as 50-60 feet (c. 15 – 18 metres) high in places.
[161] If Buddhist, it could well be a Hāritī image.

small, square structure lay to its south. Next to the larger building, on its western side, was another stūpa, on a 45 ft² (c. 14 m²) square base, and with a small chamber on its south side. A semi-circular terrace lay next to it and on the edge of the mountain. Although he describes the stūpa as Buddhist-like he laboured under the impression the ruins were Hindu. The local priest called the large building Haṃsapur (Buchanan 1936, pp. 172-174; Jackson 1925, pp. 111-114). It seems Buchanan also saw a section of the Outer Fortification, describing it as a road up the western end of Giriak to the temple, and rejecting the locals' description of it as a defensive wall (1936, p. 174); he was to have very much the same reaction at Old Rajgir.

Also as at Rajgir, Kittoe was the first to connect Giriak with Faxian, but since he was misled into believing it was Gṛdhakūṭa, the attempt was a failure (1847, pp. 960-961). It was Cunningham who first connected the site with the Goose Monastery, and provided important evidence to support this. Noting the site fitted Xuanzang's description, he also discovered a cache of 84 lac seals, on one of which was an image of a goose. He also found a broken image, which he does not give details of, that had a goose carved on its base (1871, p. 19).

The main stūpa he describes as a tower, about 21 feet (c. 6.4 m) high, 28 feet (c. 8 ½ m) in diameter, and on a square base 14 feet (c. 4.3 m) high. The dome on top he describes as incomplete, there being only about six feet (c. 2 m) of it left, but there was enough to show the outer face had been thickly plastered. Immediately to its west was another, smaller mound, a room about 1.7 metres on each side, in which he found the lac seals. He describes the structure as square with projections from each face. He has little to say about any of the other ruins on the hill beyond mentioning a second tank.

The occupation mound was also largely ignored, though he refers to five pathways up the hill that had been paved, two on the river side, three on the other. He does not specify whether the paving was stone or brick (1871, pp. 16-19). Later, he also referred to a series of brick stūpas on stone foundations up to 12 feet in diameter that were at significant points on the road down to the village (1873, p. 148).

Broadley provides a few more details of the vihāra; its eastern wall was apparently complete, and was of brick. The stone platform upon which it was built he measured as 150 feet long, 100 wide and 25 high (c. 46 x 30.5 x 7.6 m). A stone stairway or road connected it with the stūpa. He was the first to bring to attention other stūpas, on the pathway up the mountain from the east, including an unspecified number on a little plateau (1872b, pp. 261-262). He has nothing to say about the Dāktar English mound.

The cave supposed to bear the marks of the 42 questions (or answers) was generally agreed to be the Gidhadvāri[162] or vulture cave. It was first described by Kittoe (1847, p. 961) and is just above the pass of the same name that lies between Udayagiri on the southwest and Giriak on the northeast. Kittoe located it and refers to a passage cut into the rock. It is completely natural, but it faces onto a platform about six metres long, with a stone retaining wall. The outer cave area is about 12 metres long and five metres high, with a semi-circular roof, but it turns into a rock fissure that rapidly narrows and gives out. No accounts of the cave refer to inscriptions or any other marks in the rock that may be taken for writing (Cunningham 1871, p. 18; Broadley 1872b, pp. 261-262; Stein 1901, p. 55).

[162] Most often spelt *Guddhedwar* in the secondary literature.

As regards the Outer Fortification, Broadley refers to a stretch facing the inner valley between the Rajgir Hills. He describes it as to the north of the Gidadhvāri pass, and as about 16 feet (c. five metres) thick. The local name for it was "Jarāsandha's Bund" (1872b, pp. 261-262).

These, then, are the main sources for the archaeology of Giriak. But only Buchanan spent much time on the Dāktar English mound (whether he was the man it was named after is unclear). Others who visited Giriak were intent on solving the topographical problems arising from Faxian and Xuanzang, and as a result of this narrow focus due consideration was not given to the settlement site.

IV. Present Survey of Giriak Hill

Ambiguities in these accounts necessitated a visit to the mountain. The pathway is a mainly unaltered rock for much of its length, though there are some modern stairs. There is here no sign of an ancient road and the first ruins are at a flat area full of broken brickbats[163]. It was impossible to take full measurements of them, but they were 28 cm long and 5 cm thick. This may be the plateau referred to by Broadley. Nearby is a stūpa site, with a stone foundation c. 5 metres in diameter. From this point the line of the Outer Fortification is clearly visible. It runs along the ridge of the hill in a north-westerly direction and gives a clear view of the plain below. In structure it is identical to the walls found around the central valley.

[163] At 25° 1.562'N 85° 31.074'E FOM 36.1. The altitude was measured at 176 metres.

From the stūpa onwards the old pathway appears and leads up to the Goose Stūpa[164]. The large stone platform was correctly described by Cunningham with its projections to the east and south. However, his description of the top as nearly gone is puzzling, since it is more or less complete. It is this presence of the aṇḍa that gives it a thumb-like shape. The cylindrical base allows one to date it to the Gupta period, and one can safely say this was the structure Xuanzang saw. A feature Cunningham failed to describe is the brick mound that lies between the platform and the cylinder, and is c. 2 metres at its highest point. The stūpa can be seen for many miles around, and would be clearly visible as one approached Giriak along the Panchana or from the east. It also lies almost directly over the ford connecting the river's banks. So its location as a sort of advertising sign for the presence of a Buddhist monastery is perfect. It appears it may well be the only complete stūpa left in Bihar, and the Patna Circle are now undertaking conservation work there.

Two hundred metres to the west is the second set of ruins, on the western peak. The decay since the nineteenth century has been immense, but enough is clear to confirm Buchanan's discovery of a large brick stūpa mound at the western end, and of Broadley's discovery of a stone causeway connecting the two peaks. Of the eight stone columns, three were found, and near these fragments of capitals with scroll work.

Two brick tanks, probably for rainwater, were found on the pathway to the monastery and there was also one near the pillars. This was the one first mentioned by Buchanan as being carved into the rock and built up on two sides.

[164] At 25° 1.512'N 85° 30.793'E FOM 42.8. The altitude was 261 metres.

The images still present on the hill are Hindu and of the Pāla period, including two Umamaheśvaras. A single sculpture from the monastery was a black, rectangular stone panel, depicting a stūpa. According to the local Vaiṣṇavite priest, a number of other Buddhist images had been collected by him, but had been stolen some years ago.

V. Giriak as a Settlement Site

The potential of Giriak's location as a node on a number of communication routes has been missed by earlier writers. A glance at the map will show that it sits astride three routes for which it could have been important. The first is one that runs east from Vāranāsī via Bodhgaya and Rajgir to Campā. The second is the Panchana River on whose banks the town is located, and the third is the Sakri River. Both rivers flow southwards into the Chhotanagpur Plateau. The connections between Buddhist monks, mercantile communities and trade routes means that the presence of the Wild Goose Monastery is itself suggestive. And the size of the mound indicates a substantial population. Buchanan's estimate of about ¾ of a kilometre is correct, and the height of around 15-18 metres is roughly the same. Where there may be a difference is on the western side. Jackson appears to have visited Giriak and suggested that river erosion was cutting into the mound and exposing some of the remains. He also believed the projections had disappeared (1925, n. 2 p. 109). However, one projection is clearly visible towards the north of the mound,

The mound[165] has a modern Śiva temple to its north and a Muslim shrine in the middle of a fort in its centre. The top of the mound is covered with old brickbats, however no

[165] Its southern end was measured at N25° 1.192' E85° 31.287'. The altitude was 102 metres

potsherds from the Early Historic were found there. The Early Historic material is concentrated at the base, near the river, and included NBP and its attendant black and grey wares. Black-slipped sherds were particularly in evidence, and these included not just those of NBP date, but also pieces belonging to the thick, black-slipped bowls with nail-headed rims. Some coarse sherds with sandy tempers that date to the Chalcolithic, and several pieces of BRW that date to the first half of the first millennium B.C., were also found. But red wares predominate and there are a number of spouts that indicate Kuśāṇa-period occupation. The structures that could be seen from the river edge included five ring-wells, and a line of brick work which was just below the top of the mound and extended from its southern end right along the river edge.

Erosion of the mound has advanced considerably since the early nineteenth century, so that it was no longer possible to locate any individual features beyond the ring wells. However, the pottery indicates a site that had started at least in the early first millennium B.C. and continued in importance until the early first millennium A.D. Even today, the mound approximates in size to Buchanan's estimate.

Of course it cannot be proven in survey that the entire mound was occupied at a single time in the first millennium B.C. It may have reached its maximum extent at a later period. And discontinuous settlement should also be considered. If a site has been abandoned for even a short period, the density of undergrowth means that if the area is re-occupied, the new settlement would be a short distance away from the original one. This may be what has happened in the case of the modern town since it has been placed next to the mound but does not spread over it, and if the same happened in antiquity, the mound would be created from more than one settlement. However, NBP and related

sherds were found all along the mound base, and this gives an indication that one is dealing with a substantial occupation. It should be remembered that in any case Pāṭaligrāma was an important node on a trade route while it was still a village and that Uruvelā was also a merchant centre without being particularly large. It remains to consider why a centre of importance could develop at this site.

VI. Giriak and the Sakri River

Due south of Giriak lie the modern districts of Nawada, Hazaribagh and Giridih, Ranchi and Singhbhum. This is why the modern road that links them with the Ganges and Patna runs through Giriak. The last four are part of the Chhotanagpur Plateau, and each has important resources that could have been tapped by the early Magadhan state. Hazaribagh has forest resources including Sal, Karam and Tun. Its most important modern mineral is mica, but copper and tin ores are also known. Ethnographic evidence from the nineteenth century confirms that tin, in the form of cassiterite, was exploitable using pre-modern smelting techniques. Iron ore is found in greatest concentration in the southeast of Giridih district at the site of Baragunda, and ancient mine-workings have been located there (Chakrabarti 1993, pp. 30-34).

Ranchi also has sal forests and some tin, but its iron ore deposits are widespread and evidence of iron-ore smelting has been found there. A group of sites labelled "Asura", and dating from the last centuries A.D. has iron-smelting furnaces associated with it, and copper and bronze production was also known (Chakrabarti 1993, pp. 46-48, 56-60). Although the Asuras were too late to be associated with the mid-first millennium B.C. they were certainly contemporaneous with later periods of Giriak's urban history.

Singhbhum is in the deep south of modern Jharkhand, and the effort to reach this region from the Gangetic plains would have been a considerable one. However, it contains what is today an extremely important copper belt, and this belt is associated with a myriad number of preindustrial mines. These mines, nothing more than surface workings, could date to any period before nineteenth century, and construction of a chronology is highly problematic. However, coins dating to the mid-first millennium A.D. have been discovered in the region and point to some pre-medieval contact with the north, while semi-precious beads have also been found in association with workings in eastern Singhbhum (Chakrabarti 1993, pp. 81-88). Recently, analysis of metal objects from Vāraṇāsī has concluded that Singhbhum must have been the source region of the copper found there, and the same is true of sites in Bihar[166]. So while a comprehensive picture of Early Historic interactions with Chhotanagpur is not yet possible, it is clear Magadha and other kingdoms were exploiting at least part of the area.

It is important to remember that two rivers provide access from Giriak to these southern districts. The first is the Sakri river, also known as the Saktimati, which begins to the east of the town. Beglar reported an old channel of the river that would have once brought it even closer that it presently is (1878, p. 125). The Sakri valley was one of a number of passes that intersected the hills and provided access to the south, and ethnographic evidence indicates its historic importance. The route went via Satgawan (also known as Satagaon) and Gawan to the region of Deoghar to the southeast, and to Kharagdiha Pargana watershed near the village of Tisri to the south. From there it runs

[166] Jha 1998, p. 93; the work was carried out by P.K. Chattopadhyay.

southeast to Sirapur and Tundi. The valley is wide until the neighbourhood of Gumgi, at which point it narrows and the road runs along a spur to the plateau. This route was one of only four in Hazaribagh to appear on a map prepared by James Rennell in 1779 (Lister 1917, pp. 51-52, 138-139).

From the Sakri valley onwards, a series of other valleys could have provided access further south. The Usri river would have provided access to the area around Giridhi and below this the Barākar river would have carried a traveller on as far as the Damodar. The latter is one of the more significant rivers in the Plateau, flowing predominantly west-east towards the Bengal coast. South of this is the Subarnarekha river valley that runs through Singhbhum northwest – southeast. In historic times this river was used to transport copper to the Orissan coast, and seems to have been a general communications route (Bose 1968, p. 85).

The rivers here are not necessarily very large, but their size is not particularly a problem. The nullah is an important means of transport in many parts of India today; when carrying water, it can act as a type of canal, in the way Chunar stone was transported using a nullah from its quarry (S. Pappu, pers. comm.). When dry, the beds can be negotiated with pack animals, in similar fashion to the wadis of the Near East that for instance linked the Nile with Egypt's Red Sea coast. It is of interest, therefore, that the workings at Baragonda are associated with a nullah, and in an area accessible via the Sakri route.

To date, no work has been done to attempt to follow the Sakri downwards, though it is clear the connections in terms of material culture with the Gangetic plain are not strong.

In the Early Historic, as in later times, this was an area of tribal groups heavily dependent on stone technology, though the Asura material culture was metal-using. Satgawan/Satagaon to date is the most significant site on the Sakri, principally for its later Gupta temples, of which there are over 12. This is in itself worth explaining, and suggests the significance of the Sakri in at least the mid-first millennium A.D.

VII. Giriak and the Panchana River

Another river that looks promising on the map is the one Giriak is actually on, the Panchana. The river rises in the plateau to the south and moves northwards towards the Rajgir. Beyond the town of Nawada it then curves northeast, following the line of the Rajgir Hills, then north to Bihar Sharif. Giriak thus falls between a significant medieval site and a possible route into the plateau. The town of Bihar Sharif is a district centre, and so the ancient town is effectively covered over. There are Buddhist structures on the banks of the river and also on a hill to the northwest of the town, with stūpa remains and gates. Another vihāra was found just to the north of the hill. Sculptures and columns were heavily re-used in later buildings at the site, so much is no longer in situ. None of the Buddhist material is Early Historic, and the name by which the site was anciently known, Udaõóapura, is unrecorded in Pāli material. Its Early Historic status is therefore open to dispute.

Nāwada today serves as a gateway to Chhotanagpur, and the three towns are linked by the Panchana River. However, "Nāwāda" is derived from "nawā awād", or new town; the site seems to have been a Muslim-period settlement. And despite the suitability of

the area, no NBP-period material has ever been found in the area[167]. It was decided to explore other points along the river to see whether occupation dates could be fixed, and whether the river's use as a route could be proven.

Chandimau stands between Giriak and Bihar Sharif, about 3 kilometres downstream from the former. At the west end of the village is a large tank with the south of it a stūpa, together with a heap of broken images. The ruins of what appear to be a vihāra lay to the east of the stūpa (Patil 1963, pp 79-80). The inscription from the upāsaka of Rajgir, found on a Buddha image, is a link to that city. The site actually contains a large number of broken images scattered over an area of several kilometres. One of them has been dated to the Gupta period, but the majority are Pāla and post-Pāla. The stone is not local, but there seems to be a very large number of such images for the size of the site. It has therefore been argued to be a production site, though no unfinished sculptures have to date been found to support this claim. The fact that nearly all the images are broken is a feature that has not been adequately explained. If it was a production centre, it would place Chandimau within a trade network, though not an Early Historic one. No Chalcolithic or Early Historic sherds were found here, however, nor was a settlement mound visible, so it was not found possible to determine its settlement date.

Three kilometres from Giriak on the southern side is the village of Madhuban[168]. It lies just to the southwest of Giriak hill, and faces the easternmost extension of Udaya. Significantly, portions of the Outer Fortification are visible in the area. However, they

[167] Mr. A.K.P. Singh, Curator of the Nāwāda Museum, pers. comm
[168] At 25° 0.342'N 85° 29.569'E FOM 31.6.

are not continuous, only running for small stretches at a time, roughly twenty to thirty metres.

Madhuban itself is divided by local informants into two. The present site, "New Madhuban" is not considered very old. However, a small mound is present within the village, and the mound contained sherds with the dark red slip characteristic of the Kuśāṇa period. The mound thus has levels dating at their latest to the early centuries A.D. "Old Madhuban" is to the northeast of the village, closer to the mountain. According to local information there was once a fort here, dug away about 1945. It was square, with earthen walls and enclosed about seven acres. There was also an earthen mound, and this had been dug out for building purposes about the same time. The only pottery left was on the ground, but there were also some pieces of brick along the north face of a small embankment, and a piece of terracotta ring-well in the same area. The sherds included the same dark-red ware that was found at New Madhuban. Significantly, however, some pieces of very fine grey ware bowl and black-slipped ware, was also found. This would suggest Madhuban was functioning as a settlement contemporaneously with early levels of Giriak.

Midway between the Bangāṅga Pass and Madhuban is an area marked on the maps as Tapoban. These springs were first noticed by Buchanan first noticed in 1810, and were managed by the Rajgir brāhmaṇas. The springs form a pilgrimage site, but no Early Historic material was found there. However, the presence of a tīrtha might suggest an old route.

Further along the river and just outside the Bangāṅga Pass, is the village of Chaumadih. No excavations have been carried out here, but a number of beads have been found in the area. A number of them were unfinished, suggesting it was once a bead-making centre. The time at which this occurred was not established, however. Survey of the area unfortunately produced no beads that could help determine the question. However, Early Historic occupation was clearly evident. Sherds of NBP, grey and black-slipped were found in the fields and gardens next to the village over several hundred square metres, indicating a significant occupation (though there was no settlement mound). Given its proximity to Rajgir, perhaps this material is not so surprising.

Further south, however, the picture changes, and no significant NBP-period material was found. The town of Nardiganj is located on a bend in the river[169] and the oldest part of the site is located right on the Panchana. Kuśāṇa – period sherds were plentiful on the surface. However, nothing from the Early Historic was visible. Nearby is the village of Pandpa[170]. A mound is in the centre of the site, and again Kushan – period sherds were plentiful. But no NBP or contemporary wares were visible.

Oodoo[171] is in the same general area, and seems to have a significant history connected to it. The village is built on a large mound, and its summit is the ruins of a mud structure that is the ruins of a zamindar's house. The mud walls have a number of Kushan-period sherds built into the fabric, and a number are also scattered on the mound surface. A large Buddha image was found here (it is now in the Nawada Museum) and a number of broken images, one Jain, the others Buddhist and Hindu, remain in situ. These are

[169] At 24° 56.118'N 85° 25.424'E
[170] At 24° 56.684'N 85° 25.424'E FOM 31.6.
[171] At 24° 54.184'N 85° 25.156'E FOM 31.6

all Pāla and post-Pāla in date. Three temples and a large talāb complete the picture. A connection with Rajgir survives in local folklore, as the village is said by locals to be the Gate of Jarāsandha and Bimbisāra. The evidence, then, is for a significant site, but one that cannot be shown to be older than the beginning of the Christian era.

The evidence points towards a settlement of this section of the Panchana during the Kushan period, a time of economic and population expansion. This indicates, however, that the capital of Magadha was located at its southern edge. Although this would seem unlikely, there is not yet anything to refute it. However, the fact that both Chaumadih and Madhuban provided Early Historic material suggests the presence of a southern route between Giriak and Rajgir. The route skirting the southern mountains is quite passable, more so than the eastern valley. It is also significant that the Outer Fortification, where it occurs, is on the outer side of the hills, not the inner. For most of its length, one can see onto the plains, but not into the eastern valley. One cannot rule out the valley completely, however, as a route. Firstly, the ford opposite the Giriak mound and the Gidhadvāra Pass make it a direct way to Old Rajgir. Secondly, on the eastern side of the Inner Fortification, there is a gate, a moat and a bridge, along with a complex of walkways connecting with Bimbisāra's Causeway. Finally, the presence of the Gidhadvāra Cave suggests the pass was used. However, there are no contemporary records of it as a route. Faxian used the northern road to Giriak, via Nāla, while Xuanzang travelled there via Nālandā. The establishment of New Rajgir would have made this route more direct than either the valley or the southern road.

The significance of the Nardiganj area possibly lies not so much with the Plateau as with the Gaya and Bodhgaya area. The branch of the Panchana on which Nardiganj

lies runs roughly parallel to the Rajgir Hills and points towards Kurkihar, a major medieval Buddhist site. However, textual sources make it clear that Rajgir was connected to the area of Bodhgaya (ancient Uruvelā) by means of the Jethian valley. When the Buddha met Bimbisāra for the first time, and promised to return on achieving enlightenment, he went due west through the hills to reach the Uruvelā area. It is no surprised then that parts of the "Outer Fortification" have been found extending as far west as Chakra Ghat on the northern range and the village of Jethian on the southern (cf. Map 9) – these roads must be the causeways built by Bimbisāra referred to by Xuanzang that lay west of Rajgir (W pp. 148-149).

The sources also make it clear that merchants lived at Uruvelā, and this is what must have made it attractive to ascetics in the first place. The reason for their presence is two-fold. The first is that it was on the branch of the Uttarapātha trade route that ran from Vārāõasī to Rajgir, and then on to Champā in the east. The second is more speculative, but one of the main points of access to the plateau to the south is through the Lilajan valley south to Hunterganj and Simana (Lister 1917, pp. 51-52). That one could go as far south as Orissa is demonstrated by the *Mahāvagga's* reference to two merchants travelling from Ukkalā (Sanskrit Utkalā) to Uruvelā (1.4.2 [IV, p. 5]). Uruvelā could thus be at the intersection of two significant routes.

Although it was not possible to survey the Jethian area on this survey, there is an alternative route to Bodhgaya that is not noticed in the sources. A modern road connects the latter with Nawada, and exploration along this route might reveal an older line of communication. Evidence for this old route is provided by an artificial cave, Sītāmaḍhi or Sītāmuri, that lies c. 2.5 km to the south of the modern road. It consists of an isolated

boulder that has been hollowed out into a single chamber. The cave was first reported in detail by Beglar and measured at 15' 9' x 11' 3" (c. 4.8 x 3.4 m). The chamber is loaf-shaped and there are no windows, the single entrance being a door wider at the bottom (2' 1" or c. 0.62 m) than the top (1' 11" or c. 0.57 m i.e. 5 cm smaller) (Beglar 1878, p. 107). This narrowing of the door and lack of decoration is reminiscent of the Son-Bhāndār Cave, as is the polish on the ceiling. The cave thus is thus likely to be of Mauryan date. Some Buddhist images were also noticed by Beglar, though he did not date them (p. 107). Nearby is an old, dry tank, known as Sītakuṇḍ. Significantly, two villages are built on top of mounds in the immediate vicinity of Sītāmaḍhi, and a mound is also present in the village next to the cave. However, no pottery was found.

VIII. Devangarh - The site of Devangarh is located in Nawada District at N 24° 51.531' E 85° 51.670', and is ESE of Giriak. It is one of the most interesting sites in Bihar, particularly in its association with ironworking. Small pieces of iron slag can be picked up all over the site. In addition, there is an empty) talāb, a brick fort enclosing about 10 acres, and a brick mound, about 20 feet high. Nearby, a broken and unfinished image of Balarāma, dating to the first century A.D., was found. NBP was not found on this survey, but has been recovered here. However, there was found some black-slipped ware, and also some coarse Chalcolithic pottery and one small BRW sherd, burnished on the exterior, which indicates its Chalcolithic date. Kushan ware was also found in abundance. The Chalcolithic and NBP/BSW sherds raise the possibility of a route between Devangarh and Rajgir. The greater numbers of Kushan and later pottery suggest it reached the height of its importance after the Early Historic, but since one would expect to find larger quantities of later pottery anyway, one ought not to underestimate its importance for the earlier period.

CHAPTER SIX

CERAMIC CULTURE AND ANALYSIS

I. Introduction

An integral part of the survey was felt to be technical analyses of some of the sherds. It was felt that previous surveys had ignored the types of information such analysis could yield, preferring instead to concentrate on the chronological information that broad classes of pottery could provide.

Unfortunately, the scientific analysis of pottery groups has not been as intensive as in other parts of the world, for instance in the classical Mediterranean. In view of this, it was felt that a selection of thin-section slides from Rajgir might be helpful in raising some interesting questions about pottery manufacture and distribution. It should be emphasised that this part of the project was small-scale, and that definitive answers are only available from analysis of many more such slides. But some interesting results were obtained and are presented in Section II.

Finally, the key diagnostic sherd for the early periods of state formation, and thus for Rajgir's most important era, is Northern Black Polished Ware (NBP). The method of manufacture has been discussed many times in the last half-century, but more attention has been concentrated on black-coloured sherds than on, for instance, bichrome gold and silver or red. The variety of sherds found at Rajgir meant that an analysis of bichrome and other colours could be done using electron spectroscopy. Some

preliminary results were obtained that give some strong indications of the method of manufacture of NBP.

II. Thin-Section Analysis of Sherds from Rajgir

A series of thin-sections were taken to determine the internal characteristics of some of the sherds. Although only ten samples were studied, it was felt questions could be raised that could promote lines of further study. Of particular interest were:

1. whether some relationship could be established between pre-NBP Iron Age Black-Slipped Ware and its possible descendant, NBP.
2. whether something could be said about the so-called "coarse NBP"
3. whether any sherds could be shown to have originated from outside the immediate area of Rajgir.

The analysis was performed by Dr. Andrew Jones, then of the McDonald Institute in Cambridge.

Slide 1 (Bag 9, Ratna Road): red pottery

The quality of the pottery is indicated by its fine clay matrix. However, it is heavily micaceous, the frequency of mica being some 30% of the total. The mica pieces are approximately 0.05mm in length, and are generally angular.

The central position of the mica throughout the matrix together with its linear orientation is suggestive of the use of a forming technique, such as a paddle and anvil.

Slide 2 (Jāradevi Mound): Cookware, reddish, burned black side

As would be expected of cookware, the sherd has a coarse clay matrix. It also has a 10% frequency of mica – however, the (angular) mica fragments are large – between 0.05-1mm in length. Mica is angular. There is also sparse (approximately 1%) grog temper. The grog is rounded, so was clearly finely crushed. Finally, linear pores run through the length of the sherd, pores being useful in promoting heat exchange. Some voids indicate the presence of organic temper.

It is difficult to determine the relationship between the clay source and the source of mica, however the range of size of the mica is suggestive of poor sorting. But the addition of the rounded grog suggests a tempering strategy.

Slide 3 (Giriak): NBP

The clay is of a very fine matrix, and has obviously been selected for its quality. The materials are rounded, well sorted and there does not appear to be any temper whatsoever. There are, however, pockets or 'lenses' of sand in the mix. These do not, however, make up a substantial proportion of the sample - indeed less than 1% frequency. These pockets of sand are elongated along the length of the sherd. There are pieces of carbon present at a frequency of 10%. There is also very little mica. The

lenses of sand suggest clay selection is responsible for the quality of the clay, more so than any process of levigation.

This is of course only one sherd. However, its significance lies in the fact that it is quite a thick piece, and is can therefore be classified as "coarse NBP" in the terminology of Roy (1983, pp. 98-99). It is clear from this piece that NBP that is thick in section is not necessarily coarse at all. The fineness of the fabric and the absence of temper would suggest that NBP was a relatively fragile ware. Extra thickness would be a way of compensating for this fineness. Its quality would have been judged by its users largely on the basis of surface finish, and in making judgements about a declining status or otherwise of NBP, it is this finish, as well as the fineness of the fabric, that are the important variables.

Slides 4 (Bag 2/Mound II): Pre-NBP Iron Black-Slipped Ware. Two slides were taken from this sample.

The interest in this sherd lies in the possibility that the surface treatment of black-slipped ware could be ancestral to that of NBP. Although this may still be the case, the difference in fabric is clearly marked. The clay matrix is quite coarse, and the body is full of voids – in fact, these voids constitute about 30% of the sample. They are of two shapes, ovoid and elongated, and lie in both lateral and transverse planes. This is fully consistent with organic temper, and the shape suggests grass or chaff was added. However, the ware is by no means crude, as another tempering agent, grog, is also present. The pieces are both angular and rounded, and constitute about 10% of the sample. This suggests a complex tempering strategy. The slip is quite thin, less than 1

millimetre thick. The two slides have different levels of oxidisation; the first is well oxidised, while the second is only oxidised in patches.

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Slide 5 (Bag 12, Ratna Road): Coarse ware

This piece was found mixed with other sherds in the centre of Old Rajgir. However, it is interesting in that it is quite different in composition. The clay matrix is very coarse, and about 50% of the total is made up of angular fragments of mica, varying in length up to 0.05-1mm. What is different about this sherd is that in addition there is a 5% frequency of angular granite. Carbon appears sporadically, and oxidation was is apparent on both inner and outer surfaces. The high frequency of mica and the range of sizes are both indicative of poor sorting. There is also the question of granite, which is not part of the immediate area of Rajgir and does not appear in other sherds. There is thus a possibility that it represents an import from outside, possibly the Chhotanagpur Plateau. However, it is only one sherd, and further collections will be necessary to explore this possibility.

Slide 6 (Bag 12): Piece of greyish black

This piece was also found in the centre of Old Rajgir. It has a fine clay matrix, but has an approximately 50% frequency of both angular and rounded mica fragments. The size of the mica pieces is uniform, about 0.05mm is uniform, and this suggests the mica forms the background content of the clay. The slip is thin, less than 1mm, black, and found on both surfaces of the sherd.

Slide 7 (1.8.1): cooking jar, black-stained, globular upper body, wheel-made

This sherd, from the Jāradevī Mound, was for cooking, and so has a coarse clay matrix. Angular mica is present in about 10-15% frequency. The size of the pieces is variable, ranging from around 0.05-0.5mm. There is also a 10% frequency of sub-angular to rounded pieces of grog. Linear voids are also present, running lengthways along the body of the sherd.

Slides 8 (1.8.2): terracotta ring-well. There are two slides from the sample.

As one would expect from a ring-well, the clay matrix is coarse. Something of this size and coarseness would also be expected to have significant amounts of temper to prevent the piece from cracking during drying, and the frequency of mica and plagioclase feldspar is 50%. The size of the micaceous pieces varies considerably, 0.05 – 0.5mm. There is also a low frequency (about 1%) of linear voids running lengthways along the fragment. The ring-well is uniformly oxidised.

The smaller pieces of mica seem to be a naturally occuring component of the clay matrix. The larger pieces are another matter, but it is unclear whether these fragments were deliberately added.

Slide 9 (V.7.1): flanged pot

The clay matrix is medium to fine. Mica, both angular and sub-angular is again present, along with plagioclase feldspar, at a frequency of 10%, (approximately 1%). Linear

voids run lengthways along the sherd, suggestive of organic temper, at a frequence of 1%. Despite their very different functions, it is noticeable how close in composition the pot and the ring-well are to each other.

Slide 10 (R.12.1): curved sherd

The sherd has a medium to fine clay matrix, and has a high presence of angular mica. The mica forms about 30% of the total and individual pieces range from 0.05 - 0.5mm. The sherd is well oxidised. The high variability of size in the mica suggests that the clay was poorly sorted.

Slide 11 (Giriak.1): grey sherd

The fabric is a very fine clay matrix. The dominant tempering strategy is the addition of grog, with both angular and rounded pieces being present. The grog makes up roughly 5of the total. Mica is present, but not in high quantities. It seems to be present only in the form of small background pieces. The slip along with plagioclase feldspar is very thin, and forms a layer of less than one millimetre.

III. Scanning Electron Microscope Analysis of NBP Sherds

III.1 Previous Theories - NBP (Northern Black Polished) Ware is the ceramic characteristic of the early period of state formation in the Gangetic Plains, and continues until c. 200 B.C. As a luxury ware, it is not very common, only representing a small

percentage of assemblages in which it occurs. Nevertheless, and despite the disputes about its dating, it is crucial to the chronology of Early Historic sites. This, plus the distinctiveness of its appearance, has led to much work being done on the method of its manufacture. Although a variety of hypotheses has been proposed, the two main theories are that either iron or carbon was principally responsible for its surface finish.

Roy has been able to divide the fabric into five main groups. A is thin in section, fine, hard and dense, and its surface is difficult to mark. It is found only in the form of corrugated or flanged bowls, never dishes. B is thicker and its surface is more easily scratchable. It is not of the same standard as A, being less lustrous and smooth, and often has noticeable burnish marks. Both dishes and bowls are found in this fabric. Both types are made of well -levigated clay, on a fast wheel and have a grey core. The third type has a red to grey core with a surface below the slip of red to buff matt colour. The slips itself peels off more easily than the other types. D might be described as a variation of Black-and-Red Ware since it derives its colours form inverted firing. But it is of higher quality than the latter, and is thin and lustrous. Finally, Type E is thick in section, with the surface dull black or grey, rarely lustrous. It appears to have been fired at a lower temperature than other types and its surface could be described as a wash or self-slip. Bowls and dishes were joined by other shapes, such as vases and basins (Roy 1983, pp. 198-199).

It is still not known with certainty when NBP began to be produced, nor where the development took place. Bihar has often been cited as the region of first production, its ancestor being the pre-NBP Black-Slipped Ware. However, it is also possible the ware spread to Bihar from further west. The seventh century B.C. may serve as a

provisional date. According to Roy, from the fourth century B.C. there is a decline of NBP both in numbers and quality, and it is from this time that the coarser type E is mainly produced (p. 204). Gaur proposes a three-stage chronology, though his work was based on material further west than Roy's (1983, pp 257-259). However, he agrees with the observation that NBP seems to become cruder in its latest phase (p. 456).

Iron was first proposed as the major colouring agent by Sana Ullah, who detected an oxide in the coating of a sample at the level of 13%. The coating was not a glaze, rather a ferrous silicate was responsible, the lustre was from ferrous-lime and ferrous magnesia silicates that fused at a low temperature, and the blackness was increased by the addition of carbon and tar (Sana Ullah 1946, p. 58). Early tests at the British Museum concluded an inorganic ferruginous material was responsible, that the pot was dipped before firing, and then fired at a high temperature (800°C) and cooled in a reducing atmosphere (Wheeler 1959, pp. 30, 180). Iron was also suggested in a series of papers by K.T.M. Hegde, although the details of how it was used differed. Analysing the surface dressing, he found that sodium oxide and iron oxide was ten times greater on the surface than in the core, and that when heated in an open crucible at 800°C the surface changed colour from black to orange to a bright shiny red. He proposed that the dressing was of magnetite; it was also found in the core of his samples, but at much smaller amounts. He claimed that if one looked at the surface under a microscope one could see magnetite pieces within an amorphous glass-like substance, and that NBP was essentially glazed. He suggested a liquid clay peptised with the addition of alkali, possibly the common encrustation found on alluvial soils known as sajjamatti. A resultant chemical reaction would have produced black magnetic oxide or iron (Fe3O9) and the sodium compounds in the sajjamatti would have combined with aluminium and

silica to create the glaze silicate. A number of samples showed crazing, and so he argued that the pot was baked at 600-700°C; he had noted that when the surface was removed the pot was a red colour, so presumably he believed it was oxidised. A ferruginous slip was then applied, followed by firing at 800-900°C. The thermal expansion produced by a high percentage of sodium could have produced the crazing (Hegde 1962; 1966; 1978).

Carbon was first suggested as the key variable by B.B. Lal, who suggested an organic liquid had been applied after firing, although he did not rule out ferruginous material altogether (Lal 1955-56, p. 56). But the most important work has been done by Bhardwaj. He found that the slip was extremely thin, that both sides were black and that the slip and body had not fused together. His analyses found that both carbon and iron were present, but (like the British Museum) found it was not magnetic or only weakly so. The absence of magnetite was confirmed by the slip's lack of resistance to a razor and this also showed glazing could not be involved. His conclusion was that carbon must have caused the black colour and the detachability of the slip suggested an application of an emulsion of clay and organic liquids onto the pots before baking, and then firing in a reducing atmosphere, thus carbonising the organic material. However, like others, his theory did not adequately explain colours other than black (Bhardwaj 1968; 1979).

More recent testing, on two sherds from Kausambi and Rajgir, has been done by Gillies and Urch. The first was black on one side, bronze on the other, the second bronze on both sides. Testing showed that firing had been in a reducing atmosphere, and that self-slipping was possible. However, there was a higher iron content in the black surface

than in the body, and higher still in the bronze, whereas carbon was at the same level in both slip and body. They also found that the bronze only represented an outer layer and that a black surface lay underneath. They found no trace of iron oxides or spinels; instead they attributed the coloration to an iron-rich biotite or a related form of mica (e.g. muscovite). Micas were present in the body clay. The "glazed" appearance under the microscope was due to the destruction of clay minerals by a sintering of the slip, and the characteristic NBP gloss was a product of mica platelets aligning themselves parallel to the surface of the slip. The bronze colour was due to the deliberate or accidental oxidising of the same material (Gillies and Urch 1983, pp. 38-42). However, again the analysis failed to take into consideration the full range of coloration. Nor were the implications of double-slipping, first noticed by Gaur (1983, p. 454) followed through.

Finally, Roy has adopted an intermediate position, based on testing and study of modern Indian pottery-making. He detected both carbon and metal in the slip and suggested the latter was added a fusible material, possibly in the form of borax and a colouring agent such as iron or copper or both was also added. An experimental firing was done with using these elements and kabiz, an organic mixture derived from plants, was also applied. The pots were then fired in a reducing atmosphere and the results were close to NBP. He concluded that the gloss resulted from reduction, iron oxide and organic liquids and the temperature level. It was the temperature that determined whether the firing was glossy or matt, and also the degree of hardness (Roy 1983, pp. 211-213).

There has been little done since the early '80s. However, unpublished analyses carried out at the British Museum and the University of Baroda, on a larger scale than previous

research, have supported the theory of ferruginous material being of greatest importance, and have also detected double- and triple-slipping (I. Freestone pers. comm.). When published the research will be the fullest available, and may help to overcome the difficulty pointed out by Roy, that analysis on sherds from one area may be different from those from another because of regional differences (p. 211). However, like previous workers, the emphasis has been on black sherds.

III.2 The SEM Analysis - A set of samples were chosen from the pieces found at Rajgir, and their constituent elements analysed using a Scanning Electron Microscope (SEM) in the Department of Materials Science at Cambridge University. The SEM also allowed examination of the sherds at high levels of magnification. The research has been done in conjunction with Dr. Colin Shell of the Department of Archaeology at Cambridge, and much of the explanation of the results comes from his input.

Sample 1 was a bichrome sherd (a dish with gold and silver coating) found near the northern wall of the Inner Fortification. The microscopic examination confirmed that the slip had not coalesced with the body, and in was in fact partly detached from it. It was also very thin, in total about 10 - 14 microns across (a micron representing a thousandth of a millimetre). However, closer examination of the edges showed a double-slip, with the top layer about a micron in thickness. Below it, a cross-section showed the fabric to have a compaction layer, demonstrating the pot had been burnished prior to the application of the slip, presumably to give a smooth, even surface.

Elemental analysis of the sherd indicated a high proportion of iron, representing 11.74% of silver and 10.16% of the gold. This was in marked contrast to the fabric, which recorded only 2.15%.

The second sample was from the same area, and was a bronze colour on both sides. The results were very similar, showing a very thin slip on top of a thicker one. The elemental analysis showed iron at 18.94%, with the fabric at 6.33%.

Sample 3 was a so-called "degraded NBP" sherd, i.e. grey with dull red splotches, from the centre of the valley. The grey area gave a reading of 5.39%, but the red was even lower, at 4.46%. This suggests the redness is possibly due to light refraction, the red areas simply being rougher than the grey. It also raised the question of whether the degraded form could have resulted from water action or was a waster.

The fourth sample was a thicker or "coarse" sample of NBP, the rim of a small bowl, again taken from the Inner Fortification area, and silvery in colour; the measurements were 12.91% and 4.15% for the slip and fabric respectively.

Carbon does not appear to be the key variable. The level of oxide was high in all samples, though it was not possible to determine how much of it had combined with the iron to produce ferric oxide.

A number of sherds from the site of Prahladpur were loaned by the Ancient India and Iran Trust to provide comparative detail. One of them is a rim sherd from a small, thin-walled bowl, and blackish-blue in colour. Double-slipping was again present, with grey

the colour of the underlying slip. Small patches of red on the surface appear to be areas that were not covered properly, and were exposed to oxidisation.

III.3 Conclusions - The analyses are part of an on-going process and the results are therefore preliminary. But a number of things can be said about the sherds examined so far. Firstly, all those examined had two slips, with the upper surface being about a micron in width. The thinness of the upper coating was seen where an edge was available, and it was also shown by the presence of air bubbles on the sherd surface. The extreme thinness of the top coat implies either a very fine suspension in liquid that was either wiped on or into which the pot was dipped. Since a single layer of clay platelets would lie in a single alignment, the presence of mica is not required to explain the surface gloss. Secondly, iron is present at significantly high levels in all the sherds, no matter what the colour, and at higher levels than the underlying fabric. Thirdly, evidence of oxidisation after the application of the slips opens up the possibility of a three-fold process of oxidisation, reduction and re-oxidisation. This would have helped in the creation of the colour and possibly control of this process could have created the colour variations. More work needs to be done to confirm some of these conclusions, but a number of useful leads have been established.

CHAPTER SEVEN

CONCLUSIONS AND FUTURE RESEARCH

I. Rajgir

This thesis has aimed at the following:

1. a study of the history of Rajgir as a case study of research on Early Historic cities in general.
2. an analysis of the textual sources for the ancient history and topography of the site
3. a history of past fieldwork at Rajgir, highlighting some of the inadequacies of this work and the problems associated with their reconstructions of the ancient topography.
4. an attempt to demonstrate that archaeological texts need to be linked to wider discourses in the culture within which they were written in order to be properly understood.
5. a presentation of fieldwork results at Rajgir and neighbouring areas, with a discussion of the functions of the Outer Fortification and an analysis of dating evidence for both Old and New Rajgir.
6. a technical analysis of selected ceramics found during the fieldwork

7. an attempt to show Giriak to be an integral part of the Rajgir complex of sites and to indicate routes that connected Rajgir to important sources of raw materials.

The picture one can gain of the populations, size and urban functions of a important Early Historic cities is at best a fragmentary one, and this is as true of Rajgir as it is of any other. A century of surveys, beginning with Francis Buchanan in 1812 and ending in 1913/14 with Victor Jackson, has recorded archaeological features in more or less detail, and has attempted their interpretation. But much of the data is described in desultory form, and, particularly in the nineteenth century, many of the artefacts recovered were not properly dated and are now lost. Marshall, despite his recorded enthusiasm for the site, was only able to conduct some small-scale excavations and never returned to give it a proper analysis. Since the 1920s other excavations, field recordings and conservation work have added to the body of knowledge about Rajgir, particularly at Maṇiyār Maṭh and the supposed Jīvakāmrāvana monastery site. But the material was never properly published and the record consists of small summaries. In addition, they have not made any contribution to the understanding of Rajgir's urban functions. The C^{14} dates from the New Rajgir rampart have been an important contribution to chronology, but the unexpectedness of these dates means that further research is necessary to determine their level of accuracy. The Ghosh dig has provided a working ceramic chronology, but it was only a small cutting, and not a substitute for substantial excavation.

In short, Rajgir is an archaeological landscape identified by a series of discrete sites and features, some of which have been explored in more or less detail. But the site still

waits for an excavation that can properly link the different areas of Rajgir into a sequence, and that can demonstrate or vitiate the traditional understandings of the site's history.

The thesis has also shown the importance of the textual record in understanding Rajgir, again something it has in common with other Early Historic sites. It has indicated that the sources can provide useful information so long as they are not approached naively and the conditions of their production and transmission are taken into consideration. Some conclusions about topography in the period of Chinese pilgrimage to the site can be made, and there are a number of points that gave Rajgir an important place in the Buddhist world; in particular, Gṛdhakūṭa and the elephant stūpa. This latter has been largely ignored, but its prominence in textual accounts and the portrayal of the Nālagiri episode in Pāla art makes its identification an important issue. If it is the Bālarāma Temple as suggested here, excavation could provide interesting material for Buddhist archaeology.

But in using this textual material, one must avoid the conflation of topographical details found in the pilgrim narratives and the geography of Rajgir in the mid-first millennium B.C., something that has all too often been done. One needs to take account of the evolution of Rajgir over what was a very long period of time, and the interests and biases of the monks who travelled there, particularly their Mahāyānist perspective. The accuracy of their reports is also a problematic issue, and the possible omission by Xuanzang of the position of the Śāriputra stūpa on top of a mountain should serve as a warning that details could be distorted.

It has also been shown that Rajgir has been conceived as a classic "Buddhist city", with most attention being paid to details of Buddhist topography. This has resulted in a configuration or valuation of the site that needs to be addressed in future research. An attempt has been made to demonstrate that site reports are embodiments of ideologies and values that need to be analysed and brought to the surface[172]. The place of Buddhism within British thought is one aspect of this. This is not, of course, to dismiss the archaeology of Buddhism as a worthwhile activity; this would be absurd. Rather, it is meant to shift attention to other important aspects of Rajgir, connected with its role as a city, and as an urban centre whose importance does not cease once Pāṭaliputra assumes the role of Magadhan capital.

Although proper excavation of the site is the only method for answering many of the unresolved questions about Rajgir, the fieldwork has uncovered previously undiscovered material. The Outer Fortification can, for the most part, be regarded as a system of communication more than as a gigantic defensive wall. It has been shown to be an excellent means of moving around the mountains, of providing poor defensive capability and of being discontinuous between Rajgir and Giriak. However, the very fact that it extends to Giriak is in itself an indication of the link between the two sites.

Pottery found at Rajgir has shown occupation from the Chalcolithic onwards. The ceramics on the eroded surface of the Jāradevī Mound show occupation from the early first millennium B.C. onwards, and since this mound was given special protection by the temple that stands on its surface, it would not be surprising if similar remains were

[172] Another analysis might have focussed on styles of writing and reportage in nineteenth-century reports and the implications of these for the inclusion or absence of particular types of detail.

available over a wider area. Furthermore, fine NBP and pre-NBP Iron Age Black-Slipped Ware were found in association with the northern wall of the Inner Fortification and its ditch. Again, this shows occupation in the early to mid-first millennium B.C. The lack of rolling and the direction of flow of the streams near which these sherds were found both suggest these ceramics show the valley was occupied during Rajgir's time as capital. Added to this were the ceramics found in the centre of the valley that included Chalcolithic and NBP. Analysis of some of these ceramics has provided questions that need answering with further research, including the relationship between Bihar's Black-Slipped Ware and NBP, and the possibility of tracing trade connections through thin-section analysis of sherds.

The traditional account of the relation between Old and New Rajgir has been touched on, and the presence of NBP in the New Rajgir rampart indicated. A single sherd from the eighth century B.C. (Fig. 76) may also be significant. Again, however, it will be substantial excavation that will show the true age of the occupation area outside the valley.

The question of the relationship of Old and New Rajgir is intimately connected with the issue of the date of the Buddha i.e. the date of the Mahāparinirvāna. Although frequently used to date the Gangetic urbanisation, in fact the texts reflect a society of states, cities and merchants (Fick 1920; Rhys Davids 1903) that suggest urban development was well under way before his birth. He (and his contemporary Mahāvīra) would thus represent only a *terminus ante quem*. The Buddha could also be used to date the construction of New Rajgir, since according to the Chinese (and therefore presumably local sources) it was either Bimbisāra or Ajātaśātru who built it.

In recent years, the once-accepted date for the Mahāparinirvāna of around 483 B.C. has been seriously questioned. The assumptions on which this date was based have been undermined and a number of others have been proposed. It is possible therefore that the even occurred up to a century later, around the beginning of the fourth century B.C. (Bechert 1991-92). Any new chronology must leave enough time for political evolution and dynastic changes culminating in Aśoka's abhiṣeka of 218 BC. But it must also make sense of the archaeological evidence that so far does not allow for urban development beginning much before the beginning of the fifth century BC.[173]

This is the context for the sherd evidence from the New Rajgir embankment. The excavations of the early '60s seemed to show they were constructed at some point in the NBP period, which in Bihar does not begin until the sixth century B.C. at the very earliest. The presence of BRW and NBP sherds in the top of the mound and other materials near its base would suggest Early NBP rather than Late. On this basis, the date of the Buddha thus becomes important in assessing the legend of these ramparts; The C^{14} dates of 265 ± 105 and 260 ± 105 B.C. mean there is a 65% chance that the remains sampled remains date to between the mid-fourth and mid-second century B.C.; the presence of two similar dates raises the degree of likelihood. The upper end of the date range is still younger than most theories on Buddha's date would allow, leading Allchin to argue the ramparts were built after the loss of Rajgir's status as a capital (1989, p. 14). While this is possible, the pottery found in the area must make one question the accuracy of the samples, and more work is needed to demonstrate their validity.

[173] For a summary of the chronological evidence cf. Härtel 1989.

Unfortunately, only the Chinese sources mention a double city, and the Pāli sources are silent on the matter, though they and the epics do seem to imply the city's location within the hills. The Jains do have a tradition of a number of cities being founded before Rajgir, but are not clear as to when Rajgir was built. A complicating factor is that, given the importance of these kings in the Buddhist tradition, one of them would have been credited with the new city whether he built it or not. Their authority is not by itself sufficient to date the ramparts. Nor does either pilgrim give a credible explanation for the move. An increased population based on Magadha's increasing importance might be one explanation. It is now difficult to judge the extent of the outer rampart of the new city as most of it has been dug or has eroded away, even the line of bank marked on the *Guide* map (Map 7) to the east of the citadel. Based on Cunningham's and Marshall's map it looks as though the area was roughly similar to that contained within the Inner Fortification in the valley. However, one should not put too much emphasis on the rampart. The NBP material below the New Rajgir rampart shows pre-existing activity and the road north would after all have already been there. In this case, there would probably already have been a "suburb" of the main centre, and thus a period of contemporaneity between Old and New. The relationship can only be explored further with new excavation and new C^{14} dates to test the accuracy of those made in the '60s. A date for the valley's abandonment is also needed, but at present, one can note the near-absence of pottery of the early centuries A.D. from the valley during the survey; occupation appears to have started in the Chalcolithic and ended in the NBP period. The Maṇiyār Maṭh of course was active at this time, as witnessed by its Kuśāṇa-period sculptures, but this is a religious rather than the occupation site. And the Son-Bhāndār Cave is very close to what would have been the area of settlement; it

would make more sense, if it was constructed under the Mauryans, if the valley were abandoned by this time.

II. Giriak

Giriak is an important Early Historic site in its own right whose significance has not been properly understood. Again, much has been made of the Buddhist monuments overlooking the occupation mound, but only Buchanan seems to have given equal attention to the city-site. The mound is of a size that indicates it must have been on a important route or routes. The pottery scattered along the entire base of the mound gives an indication of substantial occupation in the first millennium B.C. And the fact that the Outer Fortification extends to Giriak Hill provides a strong visual indication of its connections with Rajgir. One can argue that the importance of Giriak cannot be understood except in terms of its position within the Rajgir complex of sites. It lay at the junction of a number of routes that gave it access both to the south and the east. The Panchana River made it a midway point between Bihar Sharif to the north and the Chhotanagpur Plateau to the south, although fieldwork indicated this route may have been important only from the late centuries B.C and early centuries A.D. The Sakri river was another entry point to the Plateau, including to tin, iron and timber sources. Another route would have run from Rajgir through Giriak and eastwards to Campā. When one considers its geographical position one should not be surprised by the site's size.

Giriak is an example of an intersection between routes that obtained raw material from the Chhotanagpur Plateau, and routes that connected important Early Historic cities. It

can be argued that Bodhgaya, or more accurately the district of Uruvelā, lay at another of these intersections. It was on the road from Vāranāsī to Rajgir and Campā, but it lay above one of the only routes southwards into the Plateau via modern Hunterganj. This would explain the presence of a merchant community resident there, and therefore the community of ascetics that Buddha joined before attaining Enlightenment. Similarly, a prominent Buddhist community on the top of Giriak hill may be linked to a merchant presence in Giriak town. The connection of Gangetic copper tools with Singhbhum, and the presence of numerous ancient copper workings in this district (Bhardwaj 1979) suggest how far these routes extended.

III The Significance of Trade to Magadha

The issue of trade ought not to be confined merely to questions of how resources were extracted from the Chhotanagpur Plateau and distributed through Magadha. The supply routes that brought these resources to the Gangetic plains may have had a role to play in initial state formation and further political evolution. The following is meant to give only and indication of that role; a full discussion might take up another thesis.

There are many competing theories as to how the state may have formed, not all of which may be applicable to the Indian case. Carneiro argues that it may be population pressure, that triggers warfare, and creates a military elite that eventually leads to the state (Carneiro 1970). At present, however, there is not enough known about the population levels in the Chalcolithic or Early Historic to know whether such pressure was possible. Wittfogel has ascribed the creation of a managerial elite to the need for

construction and maintenance of irrigation works (Wittfogel 1957). But, at least in the case of North India, there does not seem to have state involvement in large-scale irrigation projects.

The coming of the Aryans has been one of the leitmotifs of Indian archaeology. Although attention tends to be focused on their presence in northwest South Asia, several attempts have been made to link their spread eastwards with several pottery types, including for instance Painted Grey Ware, though this is but rarely seen in Bihar. Erdosy wishes to see the Aryan conquest as the prime motor for social complexity, with the creation of an elite and a subjugated populace divided along ethnolinguistic lines. Conflicts mirrored in the sources, including religious one, are seen as mirroring these ethnic tensions (1988, pp. 141-148). In fact, the sources do not support the correlations between language and religion-political strata that he tries to make. But his emphasis on the role of warfare is an important one; constant conflict and the impetus it gives to the rise of a military elite with enhanced powers of coercion, is a factor in state formation with or without population pressure (cf. Webb 1975) and warfare[174] does seem a constant in early Indian society.

The crucial role of ideology as a means of legitimating power is another theme reflected in Indian scholarship, unsurprisingly given the brahmanical origin of the earliest sources. The relationships between brāhmaṇa and kṣātriya has been analysed for generations (e.g. Drekmeier, Heesterman, Dumont), and one of the more recent attempts has been that of Roy (1994), who sees the growth of power as linked to the

[174] Warfare includes a whole host of petty conflicts, and is not confined to major events such as the battle at Kurukśetra.

means by which brahmanical rituals serves as the source of power. These approaches share a number of problems. High among them is the fact that the sources used are themselves claims for brahmanical power, and thus potentially distort contemporary brāhmaṇa-kṣātriya relationships, which were in themselves distortions of the socio-economic ones. Nor do the sources lend themselves to anything but the coarsest of chronologies. One is left with a sense of abstraction, without anchorage in a specific historical-archaeological, or even geographical frame. Nevertheless, the role of rituals such as the aśvamedha and rājasūya in not only legitimising but creating royal power, ought to be taken on board.

Others have pursued state origins along more socio-economic lines. Thapar for instance sees an interplay between lineage and land, such that the more senior lineages within kin groupings were able to take the larger land-holdings and increase their wealth and power (1984). Sharma, however, noting the stress on tax in the early brahmanical literature, believes it was the indirect exploitation of resources through taxation that allowed the rulers to develop their wealth and power (1983). In either case, it is thus the spread of agriculture (with or without iron tools as a key variable), the development of an agricultural regime that creates the possibility of both population growth and a surplus, and the appropriation of that surplus that form the basis for the state.

The role of trade in social complexity has not been so fully explored, although it would be wrong to say it has been ignored. Erdosy has suggested that conflict may have been motivated by the desire to control trade routes (1988, p. 142); it is significant that Magadha's first two significant conquests were Aga, that had equal access to the Chhotanagpur plateau, and the Vṛijjis, through whose territory ran the main route from

Rājagṛiha to Śrāvastī. And Thapar has also recognised the importance of commerce, suggesting that towns were located at intersections of trade routes (1984, pp. 96-97). If one looks at North India from a comparative perspective, one can see similarities with other regions where early states developed. For instance, in the cases of Mesopotamia and Egypt, complex society develops in alluvial regions of great agricultural fertility, but lacking certain basic resources, such as metals, stone and timber. The lowlands of Mesoamerica, although not as fertile, were similar in that states developed in areas of resource scarcity. A system of long-distance trade was thus needed very early on in order for these materials to be procured; in Mesopotamia for instance, such a network seems to be present from the fifth millennium B.C.

The exact relation between trade and the creation of elites has yet to be fully developed. One line of approach is to see the creation of luxury goods as being primary, with these goods having a role in legitimating status and the unequal distribution of and competition for such products assisting powerful elites to form. Such goods, including from overseas, were certainly being imported in later centuries, but their role in the first half of the first millennium B.C. remains problematic. Given the resource scarcity of the Gangetic valley, more emphasis should be placed on the essential items. The proximity of Rajgir to the Chhotanagpur Plateau as a factor in Rajgir's success has been recognised; Kosambi attributed its importance to iron (1952, p. 123) while Chakrabarti has pointed out the significance of a wider range of products including timber (1993, pp. 216-217). However, the exact relationship between resources and political power has not been determined, in other words what it means to control the trade in such items.

It has been argued, for instance in the case of Mesopotamia (Algaze n.d.) that elites had a managerial role in the production of goods for export and the organisation of trade. This does not sit comfortably in India, where trade seems largely to have been in private hands, and little in the way of direct government involvement is recorded; even the minting of coins was largely in private hands until the Mauryan Empire.

The relation between the mahājanapadas and trade ought to be seen more in terms of appropriation of the profits of commerce by tax and duties, and by placing the capitals in such positions that would best control this trade[175]. In such small-scale societies, the personal presence of the king and his army would be important to the success of such control. Rajgir is at the head of a network of routes leading into Chhotanagpur, and was thus ideal. In other societies, a symbiotic relationship between elites and semi-autonomous markets has been postulated in terms of the acquisition of luxury goods in order to advance the elites' status and allow them the means for a coercive military power (e.g. Kipp and Schortman 1989). While this cannot be ruled out in India, profits from trade in more mundane items[176] cannot be ignored, and in the case of Magadha was probably of prime importance.

It would be more satisfying if there were some correlation in textual sources. The *Arthaśāstra*, in a somewhat obscure passage, seems to suggest that good-quality iron came from Magadha (2.19.10 [Kangle 1963-5 Vol. 1, p. 154]). It also indicates that certain precious items such as jewels and sandalwood would be taken as part of customs dues. So the relation between the state and commerce predominantly one of taxation,

[175] Although the question of which came first, the route or the city, can be a problematic one.
[176] The importance of trade in such goods at a number of social levels has been pointed out for a later period by Smith (1999).

though direct control of mining is indicated. However, the dating of this composite text is problematic, and even at its earliest was written after the period of the mahājanapadas. Nevertheless, it is interesting that it spends so little time on the metals such as iron, tin and copper, as compared with gold and silver (2.12.1-24 (Kangle 1963-5 Vol. 1, pp. 126-139]). In the *Vasiṣṭha Dharmasūtra*, again a later text, there is a ban on brāhmaṇas dealing in such products as stone, iron, tin and salt (2.30.24-27 [Olivelle 1999, p. 253]). This indication of low status indicates why they are not reflected in the sources.

However, it is not enough to correlate Magadha's success with its access to mineral resources. A recent paper by Flannery seeks to show what history makes obvious, that agency as well as process is important in state formation – in other words that the contingency of individual action as well as socio-economic processes are responsible for political evolution. In the case of South Bihar, Aṅga also had good access to mineral resources, including iron from the Kharagpur Hills (O'Malley 1910, p. 146) and it is clear that Magadha's success was based also on the work of Bimbisāra and Ajātaśātru in creating a state that monopolised not only these resources to the south, but also controlled trade routes north of the Ganges.

IV. Future Research

The direction of future research can be divided into three main aspects.

Rajgir badly needs proper excavation to solve the myriad problems associated with the site. This thesis is in many ways preparatory to such an excavation and it is to be hoped work becomes viable in the next few years.

The areas to be focused on are two-fold. There are a number of mounds still remaining within the New Rajgir citadel, and it would be important to excavate these. There is a curious dichotomy between the area to the west of the modern road, which has a number of mounds, and the eastern side, which is so flat that the Indian army uses it for parachute jumps. This requires explanation also. It would also be useful to undertake work outside of the citadel area, since the traces of earthworks suggests the site must be seen as encompassing a much larger area. But most of it is now under the modern town.

In the case of Old Rajgir, the area immediately behind the northern wall of the Inner Fortification could be a place to start. Observation from the edge of Vipula showed raised features, including a platform. And naturally, the vicinity of the pottery discoveries in the centre of the valley should also be explored. It should be emphasised that any such project should be aiming at a complete history of the site from its origins to the twentieth century and that an overriding focus on the mid-first millennium B.C. should be avoided. However, one of the principal contributions of such an excavation could be a large-scale uncovering of a mahājanapada capital. That two significant areas of Rajgir do not lie under modern housing is an opportunity that should be taken advantage of.

Secondly, the routes that made Rajgir an important site to begin with need more exploration. The importance of the Sakri has already been highlighted and a thorough survey of this river route is of the utmost importance. Similarly, the route along the Phalgu through Hunterganj should also be traced. And one should also try to map the road that connected Devangarh with the Gangetic Valley. The size of the site and the presence of iron slag everywhere around it flag its importance as an iron production centre.

Finally, more work needs to be done on ceramic analysis. It would be of great interest if NBP production could be shown to have a regional variation; if so, it would assist in mapping inter-regional contact. The presence of ferric oxide in the slip, as well as the possibility that it imitates metallic objects, in itself firmly links the ware with technological evolution in the first millennium B.C. Thin-section work has also proven fruitful using a small number of samples. It is to be hoped that further work will enable regional traditions and sources of clay and temper to be defined. The possibilities of ceramic analysis on coarse ware in defining inter-regional contact in Roman Galilee have shown the potential of this method in establishing lines of communication and trade.

Rajgir's status as one of the key urban sites in the Early Historic period is already known. As a capital of Magadha, its role in that kingdom's evolution into the most powerful Gangetic state, and ultimately an empire under the Nandas and Mauryas, makes the delineation of its history an important priority. It has been the aim here to show that less of that history is known than is generally believed, and that the potential of the site and the routes it controlled has yet to be realised.

APPENDIX ONE

GAZETTEER OF LOCATIONS IN AND AROUND RĀJAGṚIHA

The gazetteer is an attempt to list the sites mentioned in literary sources, and provide discussion of place-names where possible. Since such discussion has been the principal focus of previous work on the site, the attempt is not exactly new. But previous works have usually been selective. Patil compiled much archaeological material in his 1963 handbook, while Law (1938) is a compilation of the textual material. But neither adequately confronted the texts with the archaeology. Majumdar (1949) and Sen (1918) are smaller studies, and Majumdar in particular has much of interest, but they did not use some of the available sources.

I. The Nature of the Pāli Texts

The importance of the site for both Buddhism and Jainism means that textual references to it, and to its region are relatively plentiful. In the case of Buddhism the main sources of information are the texts of the Pāli canon, the "scriptures" of the Sthāviravāda school, which owe their survival to their transmission to Sri Lanka. They list about forty different toponyms in the city. The value of these references is that the topography is incidental to the story or teaching, and so more likely to be reliable. For instance, in the *Mahāparinibbāna Sutta* of the *Dīgha Nikāya*[1] the

[1] The following four abbreviations will be used:
MN - Majjhima Nikāya
SN - Saṃyutta Nikāya
DN - Dīgha Nikāya
AN - Aṅguttāra Nikāya

Buddha, on making his farewell to the city, recites a list of the places in Rājagṛiha that he loved: Mt. Gijjhakūṭa; Corapapāta cliff; Satapaṇṇi cavern; the Kālasīla rock; the Sappasoṇḍika pool in Sītavana: the Tapodā Park; the Kalaṇḍanivāpa monastery in Veṇuvana; the Jīvakamrāvana monastery; and Maddakucchi Deer-Park (16.3.41-43 [p. 252]).[2] Typically, the Buddha will be staying in a particular place when giving a teaching; unfortunately, only the name is usually given, without a lot of supporting detail. Occasionally, geographical information or an associated legend is given; for instance, in the *Isigili-sutta*, where the five mountains of the city are named, and a legend of Isigili is described (MN [II, pp. 110-113]).

But the texts are religious rather than historical in nature. And they cannot be given absolute dates with any precision; indeed even their relative chronology is much debated. The canon is said to be that decided on at the first Buddhist council at Rājagṛiha, immediately after the Buddha's nirvāṇa, but analysis of it has shown that some materials were added later - some passages even state they were added. And Pāli seems to have been a literary rather than a spoken language; it did not exist when the Buddha was preaching.

There are many criteria scholars have used to try to construct an internal chronology, including knowledge of geography, the levels of doctrinal and literary sophistication, and the point of linguistic development (Pande 1957, pp. 27-47). What is "original" and what an "addition" depends to a large extent on one's view of what "original"

[2] This seems to be something of a standard list, since it is repeated twice in the *Vinayapiṭaka*, in the *Suttavibhaṅga Parājika* [I, pp. 274-275] and *Cullavagga* IV.4.4 [V, pp. 99-100]; but the *Vinaya* adds the Gomata cave.

Buddhism actually consisted of[3], and naturally there is ongoing debate about this. What can be said at least is that comparison of the Pāli canon with versions from other schools (lost in the original language, but available in whole or in part in Chinese or Tibetan translations) shows that the bulk of sūtras in the *Suttapiṭaka* (doctrinal teaching of the Buddha) are agreed on, while there is close agreement between the Pāli *Vinaya* (rules for monastic discipline) and that of its first major rival the Mahāsa□ghika (Warder 1970, pp. 5-10). Also, stories from the *Jātakas*, tales of the Buddha in former lives, which everyone agrees to be late, are shown in sculptures at Sanchi and Bhārhut dating to the third and second centuries B.C.[4]

Legend ascribes the introduction of Buddhism to Sri Lanka to the third century B.C.; and the Pāli canon seems to have first been written down there in the first century B.C. Its contents can first be checked in the writings of Buddhaghoṣa and Dharmapāla in the fifth century A.D. Norman points out that if there had been some evolution in the intervening years the texts should show an influence from Sinhalese Prākrit, which they do not. And Sri Lanka is only mentioned once, in a passage regarded by ancient Pāli commentators as an interpolation (Norman 1978, pp. 32-34)

The value of these texts for history has been much debated, and there are those who view them with a great deal of suspicion (e.g. Schopen 1997). The debates parallel those for other periods where the historical evidence is not substantial, and available texts are religious or legendary in character; here too, approaches based on scepticism

[3] cf. for instance Przyluski 1926 and Mukherjee n.d. For a discussion on debates over the Buddhist councils cf. Prebish 1973-4

[4] For discussions of the chronological issues cf. Pande 1957; Norman 1983; Winternitz 1983.

have been developed[5]. Positions on the matter seem to involve a general philosophical position as well as evidential considerations. The view will be taken here that the texts should be treated with some respect unless there is countering evidence. The incidental nature of many of the topographical references, as well as the track record of Indians in conservation of oral records (e.g. the Vedic texts) also count in the texts' favour.

Later texts, written in Buddhist Sanskrit, contain much mythical material, and do not reflect any personal knowledge of the region (Law 1976, pp. 1-5). Even Buddhaghoṣa's Pāli commentaries, written during the fifth century A.D., contain descriptions of Rājagṛiha that are obviously born of legend. Jaina sources are useful, though many of them are late, and written in western India, well away from Bihar. And unfortunately there is little overlap between the two religions; rarely is the same toponym found in both sets of sources. The Epics (the *Rāmāyaṇa* and especially the *Mahābhārata*) also have some topographical material. Much information about historical events of the Buddha's period and the names of rulers can be gleaned from sources such as the Purāṇic king lists. However, straightforwardly historical texts are not to be found in ancient India, and reconstructions need to be made with care[6].

II. Ancient Names of the Site

"Rajgir" is the modern form of the ancient Rājagṛiha (Pāli Rājagaha), or "house of the king". It seems to mean "capital city", but there have been other explanations for the

[5] Cf. for instance Finkelstein 1988 for the conquest and settlement of Canaan; the "historicist" school, e.g. Pais 1906, for early Rome; and Higham 1992 for Dark Age Britain.

name. The Buddhist scriptural commentator Dharmapāla argued it was because it was a prison of kings in the *Mahābhārata.* Buddhaghoṣa believed its name was meaningless (Law 1938, p. 1). However, it is only one of several titles given to the city. The most common name in the *Mahābhārata* is Girivrāja (hill-girt city), (e.g. II.19 [2, p. 69][7]); and "Giribbāja of the Magadhans" is also found in a verse passage of the *Vinaya* (*Mahāvagga* I.24.5-7 [pp. 56-57]), and in the *Sutta Nipāta* (verse 416 [I, p. 69]). But no Jain text refers to "Girivrāja" at all, and "Rājagṛiha" (also called Rāyagiha) is only applied to the new city. Another name for New Rājagṛiha is Caṇakapura, presumably because it was built in fields of chanaka (gram) (Jain 1947, p. 276). Two names that appear in the Jain *Vaibhāragirikalpa* (verse 14) is Kuśāgrapura (or Kusaggapura) and Vṛṣabhapura. These are derived from Kuśāgra and Vṛṣabha respectively, two rulers of the Vṛhadratha dynasty mentioned in the *Matsyapurāṇa*. In the *Rāmāyaṇa,* another alleged founder, Vasu, gave his name to "Vasumati" (I.32.7 [I p. 184]).

Faxian, who visited in 405, is the first source to explicitly refer to old and new parts of the city (Legge 1965, pp. 81-82). Xuanzang travelled to India between 629 and 645. He implies that "Kuśāgrapura" refers only to Old Rājagṛiha, and gives an etymological explanation; that it comes from the kuśa grass found there. The Jain tradition may give some support to this, since it uses "Kusaggapura" both as a synonym for Rājagṛiha, and as the name of the city that preceded it on the same site

[6] A general introduction to the types of sources can be found in Warder 1972. A recent discussion of the value of the Purāṇas as history is Ganguly 1984.

(Jain, pp. 304, 326-327). It is also used by the *Mañjuśrimūlakalpa*, a Buddhist Sanskrit text that was written possibly around the ninth century, which again has as a second name the "king's (*Rāja*) city" (Jayaswal 1988, pp. 9-10). But it does not use them to distinguish between an old and a new. Faxian's (and by extension Xuanzang's) reference to Old Rājagṛiha as the "mountain city" is, Beal argues, a translation of Girivraja (1906, p. 158), but it could just have easily been suggested by the location. In any case it is of interest that a variety of names for the site or parts of it were still current in the mid-first millennium A.D. Buddhaghoṣa divides it into an *antanagara* and *bahinagara* (inner and outer cities). The pekāra (city wall) had 32 large and 64 small gates. There were closely adjoining settlements/suburbs outside the gates, which he refers to as *Rājāgarassa sāmantās* (cited in Law 1938, pp. 7, 24). However, his late date and the inclusion of mythical materal (including the city's capture by yakṣas (Law 1938, p. 28) undermines confidence in his description. It is unlikely that the city was so large as to require 98 gates, and there is no evidence yet of discontinuity of settlement.

There are few references to architecture in the texts. In the *Vinaya Cullavagga* people flee an angry elephant by climbing onto long houses, curved houses and onto roofs (VII.3.11-12 [V, p. 273]). The curvature referred to may be of the type of roof, since early cave cells, imitating wooden structures, also have a curved ceiling. The *Sāmaññaphala Sutta* in the *Dīgha Nikāya* (2.1 [p. 91]) mentions Bimbisāra standing on the roof of his palace (pāsāda) - at least, in Walshe's translation. Rhys Davids, however, renders the passage as "upper terrace roof" (1899, p. 66), and the *Mahāvastu*

[7] References to primary sources quote divisions of the standard texts, page numbers in square brackets refer to the translations used.

also mentions an upper terrace [III, p. 439]. If the writers of these passages did have an idea of Bimbisāra's palace, it may mean that it had more than one level.

III. The Rajgir Hills

The names of the various Rajgir Hills feature frequently in the texts, particularly the Buddhist, since the monks spent much of their time there. There are three sets of names, two in the *Mahābhārata,* and one in the Buddhist material. Although there are only five names in each set, matching them has proven to be an intractable problem, partly because topographical hints are meagre.

The *Mahābhārata* preserves a list of five in the *Sabhāparvan*. These are:

Vaihāra

Varāha

Vṛṣabha[8]

Ṛṣigiri

Śubhāchaityaka (II.19.2 [2, p. 68])

Another list is at II.21.11

Pāṇḍava

Vipula

Vārāhaka

Chaityaka

Mataṅgo

But it is only to be found in the Southern Recension of the epic (cf. Edgerton 1944, n. 206 p. 104).

In retelling the legend associated with one of the mountains the *Isigilisutta* in the *Majjhima Nikāya* gives yet another list:

Vebhāra

Pāṇḍava

Vepulla

Gijjhakūṭa

Isigili [MN II, p. 110]

Vebhāra - according to the *Vinaya* the Saptaparṇī cave lay at the foot of the mountain[9]. Xuanzang also describes "Vipula" or Vaibhāra mountain, including the springs. The foundations of old temples and stupas were still to be seen, including what were identified as the sitting and exercise places of the Four Past Buddhas (PPN I p. 927).

Paṇḍava - the *Mahāvastu* orients the mountains with the city when it describes Paṇḍava as being to the east of the palace. When Ṣreṇiya (Bimbisāra) looked towards Paṇḍava from his palace terrace he could see Buddha on the mountain [II pp. 189-191]. Buddha stayed there on his first visit to the city, and according to the Sutta

[8] It is interesting that Vṛṣabha has the same name as one of the Magadhan kings.

Nipāta, lived “on the eastern side of Paṇḍava...in a mountain cave” (verse 416 [I, p. 69]). (PPN II p. 120).

Vepulla - according to the *Saṃyutta Nikāya* II.3.10 [I, p. 92] this mountain was the chief of the five. Its size was such that a legend about its growth developed. It is named Vipula or Viula in Jain texts (Mehta et al., pp. 695, 708). It appears to have been significant to early Jains, since 12 are listed as gaining emancipation there. Xuanzang refers to Vipula, but appears to be describing Vaibhāra (PPN II p. 927).

Gijjhakūṭa - in the *Saṃyutta Nikāya* Gijjhakūṭa (Sanskrit Gṛdhakūṭa[10], or “Vulture Peak”) is referred to as the "crag-fort of Magadha" (XV.2.10 [II, p. 125]). Its status as the place where several key Mahāyāna sūtras were preached meant it was visited by a number of Chinese pilgrims[11]. It seems there were a number of different stories circulating as to the origin of the name[12].

Faxian calls it the highest of the five mountains, and locates it to the southeast. Xuanzang states it to be continuous with the “North Mountain”, and very high; while the summit is very flat, and long from east to west, and narrow from north to south. It had a road from the bottom to summit, built by Bimbisāra to reach the Buddha. Both pilgrims record a cave where Buddha meditated, and the vulture cavern with

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[9] *Suttavibhaṅga Parājika* [I, pp. 274-275] *Cullavagga* IV.4.4 [V pp. 99-100].

[10] The *Gayāmahātmya* refers to a Gṛdhakūṭa, but it seems to represent Sunarava near Gayā (Jaques 1962, p. 124). The edition of this text seems to show that even a text of local origin creates topographical problems – cf. for instance, comments on mountain names on pp. 124, 374.

[11] The name given by them is *ji li tuo luo ju zha*

[12] Faxian translated the name as “The Hill of the Vulture Cavern”, and took it to refer to the legend of the demon Māra. A Chinese ambassador who visited just before Xuanzang heard a vulture had stolen Buddhas’s clothing, dropped it and the clothing had turned to stone (Levi 1900, pp. 320-322). Xuanzang believed it came from the fact that the summit was a landing platform for vultures.

associated cleft and footprints, and many other caves/cells. They also record a large stone that Devadatta threw at Buddha. However, Xuanzang mentions a large brick hall, open to the east, which is not mentioned by Faxian. This hall was supposed to have been used by the Buddha for preaching, and it contained a life-size statue of him. Watters rightly points out since the hall wasn't recorded by Faxian, it was unlikely to be very old; but the latter does mention a ruined one on or near the site (Watters pp. 151-153; Giles pp. 50-51).

Gṛdhakūṭa was the most numinous place in Rājagṛiha for Buddhists, at least for those of Mahāyāna persuasion. When China sent its first diplomatic mission to Magadha in 643 A.D. the ambassador placed a commemorative inscription on the mountain (Levi 1900, pp. 320-322, 333-336). The superlatives in the inscription and the emotional response of the ambassador and other visitors (e.g. Lahiri 1986, p. 97) indicate its importance (PPN I pp. 763-764)[13].

Isigili - The Buddha states that the first four had had different names in the past, and only Isigili's had remained constant. An etymology of the name is given; that 500 Pacceka Buddhas[14] went there to achieve release, and so never came back. The people believed that the mountain must have swallowed the sages (*isi gilāti*) (MN [II. pp. 110-113]) (PPN I, p. 319).

The *Rājag□hamahātmya* gives the names as

[13] The exception being the Tibetan Dharmasvāmin, whose description of it as an average-sized hill (Roerich 1959, p. 87) is more realistic.
[14] "Silent Buddhas" who achieve enlightenment by themselves, and never preach.

Vaibhāra

Vipula

Ratnakūṭa - probably identical to the present Ratnagiri

Girivraja – Buchanan identified it with Ratna (1936, p. 201), but this is unlikely. It may then refer to the modern Udaya, but its significance lies in the preservation of the old city name.

Ratnāvala – possibly from Ratnāvali, meaning string of pearls.[15]

The Jains seem to be responsible for the present hill names, but since the Jains re-occupied Bihar only in the second half of this millennium, the degree of continuity with past usage is unclear. But by the early nineteenth century, when Francis Buchanan visited, the local brāhmaṇas were using Jain names too (Jackson 1925, p. 132). These appear to be Sanskrit. They are (clockwise from the right of the northern pass):

Vipula - meaning large, great, high

Ratna (with the outcrops of Chhaṭhā- and Śaila- facing the narrow valley that runs to Giriak) - meaning jewel, riches or gift

Udaya - in this case, means sunrise

Soṇa – probably from sona meaning red.

Vaibhāra – possibly from "vaibhava", which means great, glorious, magnificent or vaihāra meaning a diversion/play.

[15] Wieslaw Mical of the Ancient India and Iran Trust was of great help with the Sanskrit of the mahātmya.

This set of names was recorded by Kittoe when he visited in 1847 (p. 958), though three of them are found in the "native traveller's" record (Wilson 1825, p. 38)[16]. It seems Buchanan also knew these names, but preferred to list the *Rājagṛhamahātmya* versions in his *Survey*[17].

Kittoe was the first to try to correlate the Pāli and present names. Walking up the south-facing side of Giriak he believed it to fit Faxian's description of Gijjhakūṭa, though he noted the near-absence of caves or grottoes (Kittoe 1847, pp. 960-961).

Cunningham attempted to correlate the sets of names on his first (1862-5) expedition to the area. Vaibhāra was "Vebhāra". Vipula suggested the Pāli "Vepulla", and since there was on its summit a stūpa or chaitya, identified by Yuan-Zhang, and whose ruins were still present, it must have been the Sanskrit Chaityaka. As for Ratnagiri it lies about 1 mile away from the Son Bhāndār Cave, as did the hill of the Pippala Cave (if 6 li =1 mile); therefore it must be the same as the Pāli Pāṇḍava; and he also suggested an equation with the *Mahābhārata*'s Ṛṣigiri. Udayagiri and So agiri he could not name. But he argued that Gijjhakūṭa was not one of them. Faxian placed it 15 li (c 2½ miles) to the southeast of New Rājagṛiha, while Xuanzang placed it 15 li to the northeast of the old city. According to Cunningham, therefore, the mountain could only have been the modern øailagiri, which is roughly the same distance from the old city. However, he could not find any of the hundreds of caves that were meant

[16] It is interesting that Srinivas calls Soṇa "Manikeya" and calls the hillside in the area of Son-Bhāndār "Suvarnagiri".
[17] In his journal he refers to the zigzag road as being at the west end, not of Girivraja, but of "Rutinagiri" (Jackson 1925, p. 143).

to have housed the monks. He, like Kittoe, speculated that perhaps the "caves" were small stone cells built against the rock (1924, pp. 530-532, 534-535).

Isigili Sutta	**Mahābhārata II.19.2**	**Modern**
Gijjhakūṭa	?	Śailagiri
Isigili	?	?
Vebhāra	?	Vaibhāragiri
Vepulla	Chaityaka	Vipula
Pāṇḍava[18]	Ṛṣigiri	Ratnagiri
	?	Udayagiri
	?	Soṇagiri
	Vaihāra	
	Varāha	
	Vṛṣabha	

(Cunningham 1871, p. 21)

However, he does not explain why all the sources agree on five mountains when he has six. And some of his identifications seem questionable or arbitrary. Śailagiri has very little sign of monastic activity. The presence of a single chaitya on Vipula is not sufficient to link it with "Chaityaka". And the identifications he proposes for Ratnagiri seem to be merely a guess.

[18] Cunningham's spellings of the names have not been followed.

Law hypothesised that the author of the *Isigili-sutta* listed the mountains in a clockwise order, that the Vaibhāra-Vebhāra match was a given, and that Ratnagiri and its outcrops were regarded as a single mountain.

Pāli	**Modern**
Vebhāra	Vaibhāra
Pāṇḍava	Vipula
Vepulla	Ratnagiri
Gijjhakūṭa	Udayagiri
Isigili	Soṇagiri

(Law 1938, p. 6).

He also argues that Vebhāra and Isigili are the Vaihāra and Ṛṣigiri of the first *Mahābhārata* list, while Pāṇḍava and Vepulla were the Pāṇḍava and Vepulla of the second.

However, there is no indication that the list is in clockwise order; and the Vepulla-Vipula correlation seems equally reliable. And there is no evidence at all for Udayagiri being Gijjhakūṭa

Pandey has also tried to match the four groups:

Modern	**Pāli**	**Mahābhārata I**	**Mahābhārata II**
Vaibhāragiri	Vebhāra	Vaihāra	------
Udayagiri	Pāṇḍava	------	Pāṇḍava
Vipulagiri	Vepulla	Varāha	Vipula
Chhaṭhāgiri	Gijjhakūṭa	Śubhachaityaka	Chaityaka
Soṇagiri	Isigili	Ṛṣigiri	Mataṅgo
Ratnagiri		Vṛṣabha	Varārāhaka[19]

(Pandey, 1963, pp. 31-35)

But his attempts for Udaya, Soṇa- and Ratna have no supporting detail. And, like Cunningham, he is does not explain why his list has six names and the ancient only five.

It seems very likely "Vebhāra" and "Vaibhāra", are identical. Unfortunately, the *Mahābhārata* calls Vaihāra (which ought to be Vaibhāra), *vipula śailo,* "great rock" (II.19). Xuanzang seems to call it Vipula (*pi bu luo*), though it has been argued the signs could represent Vaibhāra (Beal 1906, p. 155). In any case, he mentions the name immediately after referring to the northern mountain (i.e. Vipula) but makes clear *Pi-bu-luo* is different. Vipula/Vepulla would appear to have the same name throughout the lists.

[19] Pandey unintentionally has Varāhāka and Vṛṣabha in reverse positions.

Gijjhakūṭa is more problematic. It was associated with Chaṭhāgiri by both Broadley and Marshall and the presence of Bimbisāra's Causeway, the stone cells and other materials found there make this highly probable. But it faces the narrow valley to the east of Old Rajgir and the texts consistently refer to five hills, not six – which is why Cunningham and Pandey ran out of names. Either the stretch of Ratna facing the old city was counted as part of Vipula, as suggested by Marshall (1908, p. 91), or Ratnagiri and its two outcrops were seen as one mountain. Since Ji Ye describes "Vulture Peak" as a name applying to half a mountain (Huber 1902, p. 258), it seems the name came to be restricted to the area of Chhaṭhāgiri - whatever the case in 500 B.C. This is supported by Dharmasvāmin, who describes it as a single round peak (Roerich 1959, p. 87), a description that must refer to the summit of Chhaṭhāgiri and by Kittoe, who records its name in the mid-nineteenth century as "Gidhona" (Kittoe 1847, p. 959)[20]. The other half of the mountain could be the western face of Ratna.

As for Isigili and Paṇḍava there is not yet sufficient evidence to tell which is Soṇa and which Udayagiri, unless we accept the accuracy of the *Sutta Nipāta's* statement that Buddha occupied the eastern part of Paṇḍava (verse 416 [I, p. 69]). Since the eastern part of Soṇa abuts the Bāngaṅgā Pass, which must have been a busy gateway to the south, it is far more likely Udayagiri is meant.

What about the two Sanskrit lists? Let us look first at Mbh. II.21.11. Vipula should be the modern Vipula, and Pāṇḍava is probably identical to the one in the Pāli list, which of course includes Vebhāra. Vārāhaka must be Varāha, and Chaityaka must be Śubhāchaityaka of Mbh. II.19.2, which includes Vaihāra (i.e. Vaibhāra). This means

[20] As first pointed out by Majumdar 1949, n. 1 p. 67.

that if II.21.11 is accurate, Vaibhāra must be Mataṅgo. We have established that Pāṇḍava must be Udaya or Soṇa, and let us for argument's sake take it to be Udaya. Vārāhaka and Chaityaka must between them represent Soṇa and Gijjhakūṭa, though which is which is impossible to determine - and in that case Vṛṣabha of II.19.2 must equal Vipula. However, this means that Ṛṣigiri must be equated with Pāṇḍava, even though "Isigili" seems to be derived from that name. The lists are irreconcilable.

One could argue that II.21.11 represents a conflation of the Sanskrit and Pāli list, and should be regarded with caution. In any case, given the strong associations with the area, one should judge the Buddhist list as being the most likely to reflect local usage.

IV. Sites in Chinese Sources[21]

Ajātaśātru's Stūpa – the stūpa was one of the most significant monuments at the site. It was built by the king over his share of the relics of the Buddha, relics that according to tradition were used by Aśoka to found 84,000 stūpas across India. So it is surprising there is disagreement in the sources on its identity. Faxian's candidate is clear since he describes it as large and situated opposite the west gate of the new town. It is therefore the large stūpa excavated by Marshall on the western side of Rajgir. But the Ajātaśātru stūpa of Xuanzang is almost impossible to find, since he only records it as being east of Veṇuvana. Marshall's report suggests a plinth near Surāj Kuṇḍ at the foot of Vipula (1908, p. 96). Majumdar suggested one of a group of stūpa bases that lay to the southeast of the New Rajgir wall (1949, p. 73). The *Guide* argued for Broadley's "Madrasah", or at least its base, arguing the pillars must

be a later addition (Kuraishi and Ghosh 1958, p. 14)[22]. Since then, probably influenced by the *Mañjuśrīmulakalpa's* implication that it was actually in the Veṇuvana (Jayaswal 1985, p. 14), and by the fact that very early stūpas were small and unimpressive, the Archaeological Survey has identified a little earthen stūpa within the Veṇuvana area. It was excavated by Marshall's team but the only datable object mentioned in the report was a broken Bodhisattva from the tenth or eleventh centuries (1908, p. 95). In size and composition the stūpa stands a better chance of being pre-Mauryan than Faxian's candidate, but it has not been properly examined. That Ji Ye located it *west* of Veṇuvana only clouds the issue further.

Aśokan Stūpa (1.)[23] **–** it has generally been assumed that the Aśokan stūpa (Fig. 25) with its attendant pillar is identical to the one Faxian attributed to Ajātaśātru. even though the latter monk never mentioned the pillar. No trace has ever been found of it, but he does refer to a number of other pillars elsewhere that have not been located, so one should not necessarily doubt him[24]. And it is unsurprising that Rajgir would have one or that it would be next to such a prominent stūpa[25]. Still, Ji Ye refers to it and to its connection with a cakravartin (Huber, p. 258), but omits to mention the pillar. In any case it is undoubtedly the structure Buchanan names "Gyangnananda"[26]. The excavation here was not sufficient to ascertain date - even the supposedly Mauryan bricks lay above a medieval Jaina image (Marshall 1908, p. 96), showing that if they

[21] Discussion of the names of Old and New Rajgir are to be found in Chapter Two, Section II.
[22] Patil conflates this with the plinth Marshall identified (1963, p. 471).
[23] Numbers in bold refer to Map 11.
[24] A list can be found in Thapar 1973, who makes a suggestion that a number of them were made of wood (pp. 6-7); but the *Mañjuśrīmulakalpa* at least refers to all pillars associated with caityas as śilayaṣṭis (Jayaswal 1985, p. 12).
[25] For the connection between stūpas and pillars cf. Ghosh 1967.
[26] At N25º 1.262' E85º 25.668' FOM 11.62m.

were Mauryan they were not in situ. In any case, its size implies a period of development after Aśoka.

Xuanzang states the stūpa is northwest of the Kalaṇḍa Tank, to the southwest of New Rajgir; not due west as one would expect[27]. Huili does not mention either pillar or stūpa, but refers to New Rajgir as being to the northeast of the Mahāsaṅghika stūpa (Beal 1911, p. 117), and it is possible Xuanzang confused the two[28]. But in the nineteenth century, the town was to the north of the citadel and the latter was unoccupied (as it still is). So the two monasteries in the southwest of the town were not necessarily in the southwest of the citadel. It is also surprising that he states the city only had one gate, the southern, when Faxian mentioned a west gate close to this stūpa.

The two stūpa mounds are still very much as Marshall found them, and the smaller one seems to have been made of burnt brick. Both are adjacent to a nāla, and it may well be the stream was used to transport construction materials, and possibly even the pillar[29].

Devadatta's House – Devadatta was the cousin and rival of the Buddha. He attempted to be Buddha's chosen successor of the Order, tried to make the Saṅgha more ascetic than Buddha allowed, created a rival movement with the patronage of Ajātaśātru and tried to murder the Buddha on three occasions. He was an important if

[27] Cunningham placed it to the southwest in his 1873 map, but only because his plan of the New Rajgir walls is not very good.
[28] It is also strange he refers to the inner wall, presumably of the "citadel" as having only one gate, when he ought to have seen the western entrance.
[29] For this latter suggestion I am indebted to K.K. Mohammed, formerly of the Patna Circle of the Archaeological Survey of India

infamous figure in Buddhism, but in the Mahāyāna tradition, through the influence of the *Lotus Sūtra*, he became a symbol, proving that even the most evil man could be liberated. It is no surprise then he is mentioned a number of times by both monks. The cave or cell itself is clearly placed by Faxian 3 li to the east of the north pass between Vipula and Vaibhāra i.e. on the northern slope of Vipula. Xuanzang's directions are jumbled, but could refer to the same place. A further clue to its position is the proximity of a black stone with "bloodstains" on it.

Cunningham, despite Faxian, placed it inside the valley on its northeast side, and also marked a rock nearby that he believed was the black stone (1873. Plate XLVI)[30]. Although it was not mentioned in the body of the report, it appears from Beglar's discussion to have been a cave (1878, p. 90). The *Guide*, assuming that it was a "house", chose the same plinth near Surāj Kund as Marshall had chosen for the Ajātaśātru Stūpa, apparently because it was built in a similar way to the "Pippala Stone House" (Kuraishi and Ghosh 1958, pp. 39-40). But it can in no way be described as a cell. The most likely place is a cave above Makhdūm Kuṇḍ **(6.)** for close to it is a black rock with patches of red (Fig. 26) (Majumdar 1949, pp. 70-71). And it is in the part of Vipula one would expect from Faxian's directions. The plinth is c. 14 metres long on its western (complete) side and c. 3 ½ metres high, and could be a base for one of the stūpas Xuanzang stated were in the vicinity.

The Elephant Stūpa – Xuanzang mentions 3 stūpa sites on the way to the Jīvakāmrāvana. Faxian mentions the legends associated with them, but not the stūpas. He mentions them without claiming to have visited them, though he does mention

[30] The map in the Julien translation places it in a similar position, based purely on the text (1857, Vol. 1).

them in the same order as Xuanzang. Ji Ye only records the first two. Their location seems to be within the valley, and since Ji Ye visited in the mid-tenth century there is every chance that remains that are still visible were also visible to him. Evidence suggesting the elephant stūpa was of considerable importance in medieval Buddhism (Leoshko 1993/94, pp. 256-260) makes it the most important of this group.

On the other side of the Sāraswatī from the Jāradevī Mound, right at the base of Vaibhāra, in fact built into the lower slope, is a quadrangular bank **(9.)**, measuring c. 36m². It has a low stone wall on its eastern side, leading up to which is a ramp[31]. It is known as the Balarāma Temple, its name derived from an image which was found there (Kuraishi and Ghosh 1958, p. 39). But even if the image is of Balarāma, the structure itself is definitely a stūpa. The surface is quite uneven; one large and roughly circular mound must be the aṇḍa. On top the harmikā, measuring 2.5 m², is still visible, and there are many bricks, including a pile of brickbats near the edge of the hill slope. Jackson took it to be a fort and described a semicircular tower at its northwestern corner with a diameter of c. 11 metres (1917, p. 270). This appears to have gone. The platform is extremely close to the North Gate, on the other side of the Sāraswatī, and there is nothing else in the area on the valley floor. This is a good candidate for the elephant stūpa. Broadley suggested the stūpa mound on the Vipula, overlooking the northern pass, on top of which is a modern Ganesh temple **(12.)** (1872b, p. 244). But although Broadley described it as large, it does not appear to be so today. More prominent is the stūpa below a modern Mahāvīra temple **(13)**, in fact one of the most prominent features at Rajgir as one approaches the valley from the town (Fig. 12). It would be easy to explain why the three pilgrims who mention it list

[31] Its GPS reading is N25° 0.510’ E85° 25.137’ FOM 11.45m

it first in the descriptions of the valley. However, none of the three places it on Vipula, and the Balarāma temple fits the directions perfectly well.

Identification of the other two sites is impossible. As with the Jīvakāmrāvana, if Xuanzang is interpreted literally, they would be in the northeast of the valley, otherwise they could be closer to Chhaṭhāgiri. If not, both would be to the south of the valley. Ji Ye found the Śāriputra stūpa on a mountain to the northeast of the elephant stūpa, i.e. Vipula. The Mahāvīra stūpa is thus a possibility, but the main Jain temple complex a little further on has remains of a Buddhist caityagṛha. If his directions are interpreted more liberally then the "sinuous path" he took to get there reminds one of the zigzag road **(20.)** on Ratnagiri. It leads to what Jackson calls a *garh,* a term he used for monastic structures in the valley. In either case, if it is identical to the one Xuanzang mentions, it would have serious implications for how one can use his directions, not only in Rajgir but over northern India. One has the sense, however, that he was referring to a point in the valley and must at least give him the benefit of the doubt. As for other stūpas it is impossible to pin down their locations. But if the Mahāvīra temple stupa was present in the seventh century, and it was not the one commemorating Śāriputra, it may be the one connected with Buddha's preaching on the "northern mountain" (Beal 1906, p. 156).

Jīvakāmrāvana - a monastery sited in a mango grove, given to the order by Jīvaka, the king's personal physician. He wished to visit the Buddha twice a day after his conversion, but Ve□uvana was too far away for this; so he gave the grove for Buddha's use. Faxian described it as being located in the northeast corner of the city, in a large curved space, and with a vihāra (Giles p. 50). Xuanzang describes it as

being a little way from Gṛdhakūṭa, in a bend or curve (*qu*) of the mountain wall (*shan cheng*), and Faxian also refers to this curve. The site of the hall that Jīvaka built for the order was marked by a stūpa, and there were remains of walls, including Jīvaka's own residence, as well as plants and trees from the original garden. (Watters p. 150). Buddhaghoṣa records that when Jīvaka gave the mango grove to the Buddhists he provided it with a wall, cells, sleeping places and a private chamber for the Buddha. A representation of the main hall of this vihāra in one of the sculptures at Bhārhut depicts an open-pillared hall with gable roof (Law, p. 133) (PPN I pp. 957-959) [32].

Although Cunningham did not mention it in his text he marked the site of the Mango Grove on the map accompanying his 1873 report (Plate XLVI), in the area where Vipula curves into Ratnagiri and Jackson suggested the same general region (1917, p. 271). But Sen pointed to a number of late Pāli sources suggesting it lay between the city wall and the eastern hill, suggested the pilgrims were misinformed, and placed it at the foot of Ratnagiri (Sen 1918, pp. 132-135), near the point at which the hill curves eastwards **(21.)**. But the monks also mention the Grove was in a curve, and another Chinese text found by Watters supports Sen's identification (Watters p. 151)[33]. Excavations in the 1950s by the Mid-Eastern Circle found a series of elliptical halls (Fig. 22), which were most probably monastic[34]. One could argue the presence of these structures suggests the area was identified with the Mango Grove from a very early date. But their proximity to Gṛdhakūṭa is enough to explain their presence.

[32] PPN = Malalasekera 1967. All place-names cited in PPN are from Pāli texts, and thus in that language. All those cited in Mehta et al. are from Jain texts, and come from Magadha Prākrit.
[33] For the issue of the monks' sense of direction (or lack of) cf the discussion on the North Gate.
[34] Cf. Chapter Three, section XVI.

There are two other possibilities. If as Marshall argued, the North Gate is within the northern pass[35], then the Grove would have to be outside the valley[36]. One could then follow Vipula as it trends northeast until one meets a small spur in the northeast corner. There are two curved areas on either side of the spur, a small one on the north side, and a much larger on its southern. The presence of the "Assurein", if it is a road, does show this area was important enough to communicate with. The more likely possibility is that Xuanzang be taken literally and the Grove be placed in the northeast corner of the valley, which is where Faxian seemed to locate it too. It would solve the problem of why, if the stūpas and Jīvikāmrāvana were en route to Gṛdhakūṭa, both Faxian and Xuanzang write as though they made a separate journey to get there (Giles p. 50; Watters p. 151; Beal 1906 p. 152). But neither alternative has so far yielded the requisite archaeological evidence.

Laṭṭhivana/Laṭṭivanuyyāna – a grove near the city, within which was a tree-shrine or cetiya (Sanskrit caitya) at which Buddha stayed. Most sources agree in placing it to the west, on the route between Rajgir and Bodhgaya[37]. It was here that Bimbisāra visited with his court, was converted and presented Veṇuvana to the Order. The name derives from the green liquorice creeper. Xuanzang calls it Yaṣṭivana, meaning "bamboo wood" In his time it was a dense bamboo forest covering a mountain[38] with two hot springs about 10 li away (Watters pp. 146-147). Its location was fixed by Cunningham, who recognised it as the modern Jākhtiban, near the village of Jethian and within the two hill ranges a few kilometres from Old Rajgir (Cunningham 1873,

[35] Cf. the discussion below.

[36] If this is the case, and it did lie between Gṛdhakūṭa and the city wall, then the former name must encompass the whole of Ratnagiri, while the city wall would New Rajgir's.

[37] The sources have been collected by Sen 1918, pp. 120-122.

[38] In certain texts Laṭṭhivana is identified with a mountain (Watters p. 147).

pp. 139-140; 1924, p. 528) (PPN II p. 772). It may be identical to the forest of Rājagṛiha mentioned in the *Gayāmahātmya*, which was considered sacred (Jaques 1962, p. 124)

North Gate – Both monks use the northern tip of the city as a geographical marker, but it is only Xuanzang who refers to the North Gate, and on a number of occasions. Fixing its position is then one of the most important geographical tasks. The majority have selected a spot just south of the northern pass, roughly along the line of the modern road (which follows the old one). Cunningham, who traced the Inner Fortification badly, did not find its north wall and fixed the position of what he called the "Hasnupur Gate"[39] about half a kilometre from the pass. Assuming it was from this point that Faxian measured his 300 paces, he was able to place Veṇuvana and its tank within the valley. Since he placed the Jīvakāmrāvana just to the northeast he must have believed Xuanzang's first set of directions started from here too. But misled by the phrase "palace city" into believing Old Rajgir could be divided into two[40], and noting Xuanzang's puzzling reference to Gṛdhakūṭa as being northeast of the city, he placed a second "North Gate" in the south wall of the Inner Fortification. Marshall, who had a better map of the latter, put the gate in the gap between the north embankment and the mound underneath the Jāradevī Temple. It was in that area that he found a concrete floor c. 2.75m thick. But he then identified another gate, of the Outer Fortification in the northern pass, and claimed this was the North Gate from which both monks took their directions. Faxian makes no mention of a gate, but if the Veṇuvana is outside the valley, he must have reckoned his 300 paces roughly from

[39] This name comes from his 1871 map; on the 1873 one, it had become "Hastinapur", a misreading by either Cunningham or a copyist.

the point at which he left the pass. But Xuanzang mentions the pass (Watters p. 148) without equating it with a gate. And since he mentions the Inner Fortification but not the Outer, and the gap in the former would have been noticeable, it is easier to believe he took his directions from there. But more importantly, placing the gate so far north would mean the Jīvakāmrāvana and the stūpas Xuanzang saw on his way there would have to be outside the valley. But Faxian associates them with the old city (Giles pp. 49-50) and Ji Ye puts a mountain to the northeast of the elephant stūpa (Huber 1902, p. 258).

Majumdar, like Cunningham[41], placed a "north gate" to the south of the city with the same geographical consequences. This is unacceptable, but it is worth looking at his candidate for "north gate of the mountain city". It is a gap in the north wall, well to the east of Marshall's North Gate, at which he found some chunks of concrete. It would mean Vipula really was west of the north gate as Xuanzang had stated (1949, pp. 68-69). If one takes this as the only North Gate, Xuanzang's directions make more sense. Although the two northern hills run on roughly a SW-NE axis, he seems to have visualised them in terms of a N-S one. It would explain for instance why Gṛdhakūṭa is supposedly northeast of the gate, rather than southeast. However, this gate fronts only onto mountain. The gap on the main road and near the pass is both more immediately visible and more likely to be taken as a main gate; and was therefore more likely to be used as a directional marker.

[40] See below.
[41] Although strangely he believed Cunningham assumed palace and mountain city to be the same (1949, p. 66). He cannot have looked at the 1873 map.

Palace City – Xuanzang refers to a "palace city" and a "mountain city", the former in relation to both Old and New Rajgir. Much labour has been spent on trying to locate the royal quarter within Kuśāgrapura. The first was Cunningham, who on his 1873 map places it between the south wall of the Inner Fortification and the Bāngaṅga Pass (Plate XLI)[42]. In this he was followed by Majumdar ((1949, pp. 66-67). But Jackson seems to have placed it roughly in the area of Bimbisāra's Jail and Maṇiyār Maṭh (1917, p. 269), and Sen also places it around the Jail (1918, pp. 117-118). The issue seemed further complicated by there being a north gate for both the palace city (Beal 1906 p. 151) and of the mountain city (p. 155). The problem has continued to remain a significant one in more recent discussions (e.g. Pandey 1963, p. 146; Karimi 1969, pp. 80-82). However, the issue is a false one. The phrase "palace city" is a straight translation of the Chinese term for "capital", which was why Xuanzang could use the term for both Rajgirs; he was merely using a synonym[43]. In the case of Kuśāgrapura, although he includes the whole space within the five hills in his definition of the city, he seems primarily to be referring to the "inner city" when talking of the capital (Beal 1906, p. 150), and this was in fact recognised by Marshall (1908, pp. 93-94). The elimination of a separate citadel means Xuanzang made no significant comment on the internal layout of Old Rajgir.

Pippala Cave - also Pipphaliguhā or Pippaliguhā. A cave near the city, associated particularly in the Canon with Mahākaśyapa. Xuanzang states that it was much frequented by the Buddha, and places it to the west of the hot springs, on the north face of Vaibhāra, and about 300 paces from Sītavana. Through the rock at the back

[42] Oddly, Marshall never commented on this.
[43] Beal, in his translation of Huili's biography (though not in the Xuanzang account) makes the equivalence clear (1911, p. 114). He does introduce some uncertainty by referring to the "north face of

was a passage leading into the "Asura's Palace" (Watters pp. 153-154). Faxian also mentions it, as the place in which Buddha ate his midday meal. He describes it as being near Veṇuvana; he travelled between the two by going along a mountain on the south side, then west 300 paces. But he gives no real clue to its location and never mentions the name of the mountain[44]. Legge translates his description of it as "a dwelling amongst the rocks" (p. 85), which means he may not have really had a cave in mind The *Mañjuśrīmulakalpa* locates it on Varāha mountain (Jayaswal 1985, p.9), while other Chinese texts place it on Gijjhakūṭa (Watters p. 155) (Law 1954, p. 252: PPN II p. 204).

On his first visit Cunningham identified it with the Son Bhāndār Cave, mainly because of the inscription he found there, which he believed (wrongly) to refer to the cave as the place where Buddha had meditated after his midday meal (1871, pp. 21-22). It was actually the Jain Vairadeva's inscription. But by the time he wrote *Ancient Geography* he had decided the latter to be the Srataparṇa Cave (1924, p. 531). In 1873 he was arguing that Xuanzang probably referred to a stone house rather than a cave; the Chinese word was ambiguous. Such a house existed on Vaibhāra. and known locally as "Jarāsandha's Throne" (Jarāsandh-ki-baithak) **(7.)**. It was about 85 square feet (c. 26 square metres), and so able to house the monks supposed to reside there. There was also a cave with steps into it, which he believed was the quarry for the stone; this would have been the Asura's Cave. It measured 40 x 30 feet (12.2x9.15 metres). The house was well made, though the stone blocks were

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the royal precinct" to locate the elephant stūpa, but the phrase in Xuanzang's account is "north gate of the palace city" (Beal 1906 p. 151). Watters in nearly every case translated the term as "capital".

[44] Laidlay suggested "Pi pho lo", he believe the Chinese was an attempt at "Vaibhāra" (or "Webharo" as he spelt it (1848a, p. 501). Cunningham mentions the possibility briefly (1873, p. 142), but the suggestion has never since been referred to.

undressed; and the bricks lined the structure in its lower levels. There were in effect two Pippalas, and this was the cave Faxian had referred to (1873, pp. 41-43).

Marshall identified the baithak as one of two watchtowers on the western side of the North Gate. Nevertheless, he did not reject its identity as Pippala, preferring to believe it to be occupied by monks after losing its defensive function (Marshall, pp. 89-90). It is still listed as the Pippala House in the *Guide* (cf. Kuraishi and Ghosh 1958, pp. 15-16).

Majumdar has pointed to the unlikelihood of this, and suggested the "Asura's Cave" was probably just a quarry for the tower's stone (Majumdar, p. 69). But he had not read Broadley, who refers to a flight of eight or nine brick steps and a brick lining along the whole wall about 2 feet (0.6 m) thick. Broadley also found what appears to be a Pāla statue of a standing Buddha (1872b, p. 240), though it was in a pile of rubbish and so may not be in situ. In any case, it does appear to have been inhabited at some point. The cave is now visible, but the steps are not. Pippala is referred to by Faxian and other Chinese sources as a cave, but whether it is this one is doubtful; Ji Ye described it as being in the interior or heart of the mountain (Huber 1902, p. 258), which does not fit a cave on Vaibhāra's edge

Majumdar did in fact find a better candidate. Since Faxian describes it as being on the route to the Sratapaṛṇa Cave Majumdar looked on the northern Vaibhāra slopes. He found a natural cave that had been artificially enlarged, about 100 yards (c. 91½ metres) from the Gaṅgā-Yamuna springs, and about 20-30 feet (c. 18 3-27½ metres) from the ground. The front part of the roof had crumbled in, but the two sides of the

opening were approximately 7-8 feet (c. 2.1-2.4 metres) high, with the entrance itself about 7 yards (c. 6.4 metres) wide and 5 yards (c. 4.6 metres) deep. There were two further openings inside: one on the right-hand side near the entrance, and one at the back of the cave, which opened onto a passage.

Some Buddhist texts referred to a vihāra in front of the cave; and there were two artificial mounds about 40 feet (c. 12 metres) to the east, as well as a tank at the bottom of the hill. Faxian referred to many other meditation cells in the vicinity, and Majumdar did find some other caves nearby (Majumdar 1949, pp. 69-70).

There seems no reason to disqualify this identification without a thorough search for alternatives. What is clear is that there is no obvious candidate.

Sattapaṇṇi - The Sattapaṇṇi (Sanskrit Saptaparṇa/-ī) cave was on the slope of Vebhāra, and like the Sappasoṇḍika cave was used by monks travelling from a distance According to many later accounts, including the Commentaries and Ceylonese Chronicles it was here that the Arhats met after the Buddha's departure to compile the Pāli Canon. For instance the *Mahāvaṃsa* states that when the Arhats decided to meet Ajataśātru, "...having asked 'Where?' constructed speedily a beautiful pavilion, comparable to an assembly hall of gods, at the place pointed out by them - by the side of the Vebhāra Rock at the entrance to the Saptapani grotto" (3.19 [p. 500]). But the Pāli Canon itself never specifies the location more than stating that the Council was at Rājagṛiha; and the Sarvastivādin *Vinaya* locates the meeting in the Pippala Cave (Watters p. 160).

Faxian came to the cave by travelling westwards from Pippala about 5 or 6 li, along the north side of the "Cheti" hill, which was the shady side (*yin*). According to him 500 Arhats met here, with 3 high seats for the chief Arhats, Śāriputta, Maudgalyāyana and the president, Mahākaśyapa, in the centre. A stūpa was later raised on the site. Many Arhat cells were present around the cave site (Giles p. 52). Xuanzang agrees that the cave, which he does not name, is on the north side of a hill, which he refers to as the south mountain (*nan shan*), but which is to the north of Old Rājagṛiha. He locates it about 5 or 6 li from the Kalanda Bamboo Park, in a large bamboo wood, and describes it as a large cave. The number of Arhats that gathered there he puts at 1000. He also mentions the foundations of a large hall, which Ajataśātru is supposed to have built for the gathering - a noticeable omission in Faxian's account. To the northwest of this was a stūpa commemorating the site where Ānanda, one of the Buddha's chief disciples, achieved arhatship. This may be the one that Faxian noted.

About 20 li away from the site was another stūpa, which Xuanzang connects with a meeting that drew up another Canon, which was to form the basis of the Mahāsaṅghika of Hinayāna, and the predecessor of Mahāyāna (Watters pp. 159-160). This story is not found anywhere else, and the chronology of Buddhist schism makes it untenable (Watters p. 160) (PPN II p. 1009).

The first person to connect Saptaparṇī with Son-Bhāndār Cave was J.W. Laidlay, who based his interpretation on Kittoe's description of the latter (1848a, p. 501). In *Ancient Geography*, Cunningham accepted the idea[45], but still felt uncertain; the directions suggested somewhere on the northern side of Vaibhāra was more plausible

(1924, p. 531). But in 1872, he seemed convinced. In its main inscription reference was made to it being an auspicious cave, for this was where Buddha had meditated after his midday meal. (This was the reason why he had previously identified it with the Pippala Cave). There were socket holes bored into the rock-face, suggesting a building had once covered both cave entrances, exactly as described for the Saptaparṇī Cave in some chronicles. The clearance by Kittoe had shown the building extended a good distance in front, so it could have accommodated a large assembly. (1871, pp. 24-25; 1873, pp. 143-144). The problem was that Faxian had stated that the cave was in the northern shade of the mountain. He got over this by pointing out that the hill is on a northeast-southwest axis, and the cave might be described as being in the northern half (1873, p. 141).

Beglar disputed Cunningham's identification. If one followed Faxian's directions and went west for five or six li from the Pippala Cave, in the northern shade of the mountain, one would not come to the Son Bhāndār Cave, and the monk's reference to the destruction of the hall suggested it was in front of the caves, not attached to them; which is what the *Mahāvaṃsa* had stated. Following Faxian's instructions Beglar did find a cave in the "northern shade" of Vaibhāra, about a third of the way down the hill **(8.)**. It was on "Chhaṭhāgiri"[46], Vaibhāra's highest peak. "Saptapārṇī" was derived from "seven divisions"[47], and indeed the cave was internally divided along its length into a series of chambers. These were rock fissures, ranging from four to ten feet (1.22 to 3.05 metres) in width at their openings, but narrowing as one moved inwards until they became clefts. The inner ends of the larger ones were square or circular.

[45] Although he never mentioned Laidlay.
[46] Not the same as the outcrop of Ratnagiri of the same name.
[47] Cunningham had "Saptaparni" from the Sankskrit name for a type of tree (Srotaparni) (1873, p. 144).

Beglar counted six divisions; and there may have been another, but the jungle prevented him from ascertaining this. In front of the cave was a narrow, flat ledge about 25-30 feet (7.625-9.15 metres) wide, and more than 150 feet (45.75 metres) in length (pp. 95-97). If the Mahāvaṃsa's estimate of 500 Arhats is accepted, then the platform could have accommodated them. A large natural boulder on the platform could have been the preaching pulpit (pp. 98-99).

A winding path with three turns, which led from the bottom of the hill to the ledge, had once been paved with bricks; their small size indicated steps rather than a ramp. The path had become a watercourse, and so only scattered brickbats remained. At the centre turn was a brick platform about 15 feet (c. 4.6 metres) square. It was possibly once a stūpa, since the middle was uneven, and Xuanzang had recorded one nearby (p. 97). Another path to the platform was also located. It was shorter, narrower and steeper than the other, but it had many more brickbats (p. 98).

Aurel Stein rejected Beglar's identification, and claimed he could not find the cave. He believed Son Bhāndār to be plausible, but did find a cave on the north face of Vaibhāra in a plausible position 1901, pp. 58-60). In fact, it seems he rediscovered Beglar's. Marshall also claimed not to be able to find it. Using the translations that interpreted the "cave" as a stone house, he put forward a ruin further down the northern slope (1908. pp. 97-99).

Beglar's candidate is almost certainly the pilgrims' Saptaparṇī. It is in the right location, which Son Bhāndār is not. The latter is on the southern face, and the socket holes indicate a structure built against the wall; whereas Faxian implies that the hall

was in front (Beglar, pp. 91-92). Its date of excavation is likely to be too recent; its polishing being reminiscent of Mauryan features; and it may well be contemporary with the Bārābar Caves[48]. And although Beglar's cave is high up on the mountainside, and looks far too small to accommodate the numbers suggested in the texts the fact remains that a retaining wall was built here. But whether the compilers of the Canon actually met here is a moot point; the rather late appearance of the Saptaparṇī as the location of the meeting makes it at least possible they did not.

Although there is nothing now to prove the connection with the Council, the cave is still important, for it is an example of a natural cavern that has been altered for human habitation. The creation of a level platform with stone reinforcement at the ends, was obviously an investment of labour, though not nearly as much as that represented by Son-Bhāndār. The "Pippala cave" that Majumdar located is another example of it, as are the caves with revetting platform on Gṛdhakūṭa first located by Beglar. Further away, the Gidhadvāri cave on the south face of Giriak is a large rock fissure that, like Saptaparṇī, has a platform in front, about seven metres long, behind a stone wall (Stein 1901, p. 55). If these caves were indeed intended for the use of ascetics, they may be the predecessors of Son-Bhāndār and Barābar.

Sītavana - a grove, within which was the city's "burial ground". It seems to have been on a slope of Vebhāra (DN 16.3.42 [p. 252]). It was near Vaibhāra's north face, beyond Veṇuvana, according to Xuanzang (Watters pp. 153-154). Faxian mentions a śmāśāna north of Veṇuvana and until recently there was a burning ghāṭ to the southwest of the New Rajgir citadel. There is still a ghaṭ just inside the valley, near

[48] As Allchin points out, however, its crudity suggests that it might be one of the earliest of these

the North Gate, just at the foot of Vaibhāra, so some continuity of tradition is at least possible (PPN II p. 1543). Dharmasvāmin's location of it to the northwest of Nālandā (Roerich 1959, p. 85) is too far away to be of value.

Tapodā - name of a lake below Vebhāra and a stream running from it. The lake was cool, but the stream was hot, and this was attributed in the *Vinaya* to its running between two underground hells [II, pp. 188-189]. The name can be translated as "boiling water" [II, n. 1, p. 188]. The stream was used for bathing, and is frequently mentioned in the Pāli Canon. They must be identical to the hot springs of Vipula and Vaibhāra. Sen has suggested the two hells refer to the fact that there are springs on both sides of the Sāraswatī (1918, p. 124), and the latter is in any case the only one associated with them (PPN I p. 992).

Xuanzang only describes the hot springs (*bei buo luo*) of Vaibhāra. There were, he claimed, scores of springs, either lukewarm or cold; all that remained of an original 500 hot springs[49]. The springs had carved stones or aqueducts associated with them, directing the water into tanks made of stone slabs. They had a reputation for healing, and so people came from long distances to bathe there (Watters p. 153). Although places associated with the Four Past Buddhas were said to be nearby, there is no reference to events in Buddha's life there. Faxian went round the mountain without mentioning it, so it does not appear to be a particularly Buddhist site. The reference to pilgrimages for "healing" may indicate an early origin for Rajgir's status as a tīrtha. But Broadley did claim to see a few stūpas that had been converted into liṅgas (1872b p. 238). Since this practice of "reinterpretation" is known from elsewhere in South

artificial caves (Allchin et al 1995, p. 242).

[49] In fact, there are only about 20 springs, and a number of them are still hot.

Asia, for instance Kathmandu (Verardi 1996, p. 232), this is not particularly surprising, but it does raise the possibility of some sort of Buddhist involvement with the springs as Xuanzang had claimed. But since Broadley gave no indication of size, or whether they could have been brought from elsewhere, one should not overplay this.

Veḷuvana/Veṇuvana - Bimbisāra's pleasure garden, which he presented to the Buddhist order. It was so named because it was surrounded by bamboo (veṇu). It was the first property to be owned by the order, and the Kalandanivāpa was where the Buddha nearly always stayed when he was in Rajgir. A large number of Vinaya rules, suttas and Jātakas were supposedly recited or preached there. Two stūpas were built in the Buddha's time, near the gate, for the monks Maudgalāyana and Aṭṭā-Koṇḍaṭṭa. As well as the vihāra it had, according to later sources, a wall 18 cubits high, with towers, though this is likely to be a decorative fiction (PPN II, pp. 936-939).

Xuanzang located it more than one li from the north gate, with its original building of stone and brick, and a life-size image of the Buddha recently placed there. He referred to it as "Karaṇḍaveṇuvana"; it was known in Chinese sources as the Kalaṇda (or Karaṇda) Bamboo Garden (*jia lan tuo zhu yuan*) since in the legend widely accepted in China it was a man called Kalaṇḍa who gave it to the order (Watters p. 156). But Faxian states it was Bimbisāra who gave the Park to the Buddha, and who built the vihāra. In his account Kalaṇḍa was the name of the animal, either a squirrel or bird, which woke Bimbisāra just as he was about to be struck by a snake (Watters p. 84). But his statement that it was to the north of Old Rajgir on the west side of the road (Giles p. 51) agrees with Xuanzang's directions. The latter saw to the east of this

part two stūpas, one of which was the one Ajataśātru built over his share of Buddha's relics (Watters pp. 158-159). Whether they are identical to the monks' stūpas mentioned in the sources is unclear. About 200 paces north of the vihāra was the Kalaṇda Tank, which was waterless. (Watters pp.161-162)

The first attempt to locate the Tank and Garden was made by Julien who, on the map accompanying his translation, placed them in the centre of the valley (1857, Vol. 1). Soon after, the Tank's existence seems to have been demonstrated archaeologically by Broadley, who found in such a tank an image with "'A religious gift to the Karaṇdahrada tank'" inscribed there (1872b, p. 234). Unfortunately, the image is not extant and Broadley did not give precise information as to the tank's location; only that it faced New Rajgir's southern wall. That he identified the Kalaṇda vihāra (to the south of the tank) with all the ruins between hill and town (pp. 233-234) is no help either. The Aśokan stūpa, only 2-3 *feet* (as he wrongly believed) from the tank, he took to be one of the mounds under the wall, so it must have been close. But the only tank next to the rampart is inside the citadel, to the east of the southern gate (Kuraishi and Ghosh 1958, Plate IX). Cunningham ignored this evidence and, constrained as he was by his belief that Faxian measured his 300 paces from the Inner Fortification, put the Veṇuvana in the valley[50]. Marshall was the first to suggest the tank now listed in the *Guide* **(4.)**; it is the largest in the area and it might be the one identified by Broadley (Fig. 15)[51]. But there are other tanks in the area; Majumdar pointed out a more elaborate one, fed by stream water and with stone embankments (1949, p. 73),

[50] Cf. the discussion on the North Gate above.
[51] It has now been turned into the centrepiece of a park, and so looks modern. It apparently never looked old, but it may have been re-excavated a number of times (Majumdar 1949, p. 72; Sen 1954, p. 59).

though this is to the right of the road, not to the left as Faxian's description would suggest.

Marshall's putative Bamboo Garden was much larger than the present one with its modern Japanese Veṇuvana Temple (Fig. 29). He argued for a large area to the south of the tank that included the Vaibhāra slope around the hot springs (Marshall 1909 Fig 1 and pp. 94-96). This is impossible since the springs are mentioned separately (Watters pp. 153-154), but the park does appear to have been due north of the Vaibhāra-Vipula pass. So it is odd that Dharmasvāmin places it on the lower north slope of Vaibhāra (Roerich 1959, pp. 78-79). One would have expected the hill to be mentioned if this had been the case earlier. It may be an error of transmission or translation, or the Veṇuvana might have been moved[52].

V. Other Sites in Rajgir

Despite the work of over a century, from Kittoe to Ghosh, there are still many toponyms in the Pāli texts that no-one has tried to identify. Some of these are mentioned very rarely; others, like the Boar's Cave, seem to have been important to the Buddhist community. The list shows that only a small number survived to be included in the Chinese sources.

Ambalaṭṭhikā - in Veṇuvana. According to Buddhaghoṣa it was a meditation hall (pāsāda) on the edge of the monastery (PPN I p. 159)

[52] Majumdar suggested the monks' directions would fit the southern slopes of Vaibhāra (1949, p. 73). But Ji Ye puts it north of the hot springs (Huber, p. 258), so this is impossible. Cf. also the discussion of the North Gate below.

Corapapāta - Robber's Cliff. It is one of the sites mentioned in the standard lists[53]. None of these texts indicates the origins of the name, though a later commentary on the Dhammapāda suggests thieves were thrown from its top. No plausible identification has been made[54].

Gomatakandarā - a cave mentioned twice in the Vinaya in nearly identical lists (PPN I, p. 820).

Gṛdhakūṭoparvata - a cavern in which Buddha meditated, on the southern slope of Gṛdhakūṭa**.** It faced south, and was 3 li from the summit (Law 1954, pp. 220-222).

Guṇasila - Sanskrit Guṇaśila. A park and shrine to the northeast of Rājagṛiha (Mehta et al., p. 231). It is frequently found in Jain sources, though never mentioned in Buddhist ones. Law identifies it with Kā□asilā**,** though he does not seem to have substantial evidence for this (1954, p.226). Jaina sources indicate that it was to the northeast of the city and a ninth-century (i.e. late) text states that Mahāvīra lived on Vipula when he was at Rajgir (Chanda 1928, pp. 121-122), so there is a possibility the shrine was there.

Kalandanivāpa - a woodland in Veṇuvana, where food (nivāpa) was fed to the squirrels. It was a favourite spot for Buddha and his disciples, and the bulk of the suttas first preached at Rajgir came from here (PPN I, p. 534).

[53] i.e. DN 16.3.41-42 [p. 252], and in the *Vinaya.*

Kāḷasilā - the Black Rock on the side of Isigili mountain. It was very isolated, so Buddha spent much time there with his monks. Several significant events occurred there, including the murder of the monk Maudgalāyana[55], and the suicide of the monks Godhika and Makkhali. The *Saṃyutta Commentary* states that there was a vihāra there. The *Cūḷadukkhakhanda Sutta* mentions the presence of Niganṭhas (Jains) [MN I, p. 121], so it was not frequented by Buddhists only. Law suggests the it was close to Isigili and identical to the Jains' Guṇaśila (1954, p. 226); but there seems to be no textual evidence for it. (PPN I p. 580), especially given that Guṇaśila was a park. There may be a connection with the black stone at Makdhūm Kuṇḍ, but this is on Vipula.

Kassapakārama - monastery, named after a previous Buddha (PPN I, p. 553).

Maddakucchi – (Sanskrit Mardakukṣi) park at the foot of Gijjhakūṭa, which served as a royal deer or game reserve. It was meant to be difficult of access (PPN II pp. 443-434). It is not mentioned in any Chinese account, but Sen placed it just to the east of the Jīvakāmrāvana, at the foot of Gṛdhakūṭa. He did this because the Buddha supposedly went there from the mountain after being hit by the stone cast by Devadatta (Sen 1918, pp. 134-135). His suggestion was accepted in the *Guide* (Kuraishi and Ghosh 1958, p. 31), but no excavation has been done to test this hypothesis. Although though there are ruins there, it is hardly difficult to get to. And

[54] The best discussion is in Sen 1918, pp. 129-130.
[55] Pāli "Moggallāna"

like the “Jīvakāmrāvana” the ruins can be explained by their proximity to the mountain.

Māṇiḍiyakucchi - Sanskrit Maṇḍtakukṣi. A shrine on the edge of the city (Mehta et al., p. 538). Its name suggests a connection with the nāga king Maṇināga.

Maṇimāla – a cetiya somewhere in Magadha, at which Buddha preached to the yakkha (Sanskrit yakṣa) Maṇibhadda (Maṇibhadra) (SN X.4 [I, p. 208]). It could well be equivalent to the Maṇināga**,** a jakkha (yakṣa) shrine near Rājagṛiha that is mentioned in Jain texts (Mehta et al., p. 345). The connection of Maṇiyār Maṭh with the shrine (Kuraishi and Ghosh 1958, p. 26) is tempting, and would suggest the site is much older than the remains found so far. The only problem with the identification is that Maṇināga was near, not in, Rajgir and the Buddhist sūtra does not give a precise location (PPN II, p. 426).

Morānivāpa - a grove in Veḷuvana. It contained a retreat for ascetics of a number of different sects (**Paribbājakārāma**). It was located on the banks of the Sumāgadhā river. The park of the queen Udumbarikā was nearby (PPN II pp. 671-672).

Nigrodhārāma - another park in the city, named after a tree species (PPN II p. 71)

Nīlaguhā - a Rājagṛiha park mentioned in Jaina sources (Mehta et al, p. 329)

Paṭibhāṇakūṭa - literally “Splendid Spur/Mountain”, it was a peak and sharp precipice near Gijjhakūṭa (SN *Mahāvagga* XII.V.2 [V, pp. 378-379].

Pilindagāmaha - also known as Rāmikagāmaka. In the *Vinayapiṭaka*, the ascetic Pilindavaccha was given 500 attendants by Bimbisāra, in order to maintain him at his hermitage on a hill near the city, and the village founded to house them was named after him [II, pp. 127-128: also IV, pp. 281-285] (PPN I, p. 288).

Pupphārāma – (Sanskrit Puṣpārāma). A park on the edge of the city, in which a shrine was located (Mehta et al., pp. 471, 604)

Pupphakaraṃḍā – (Sanskrit probably Puṣpakaraṇḍaka). A grove over which two princes fought in a Jain text (Mehta et al., p. 467).

Prabhāsavana - a wood on Gijjhakūṭa/Gṛdhakūṭa (Law 1954, p. 252).

Sappasoṇḍika - literally, “Snake Pool”, in the Sītavana grove (DN 16.3.42 [p. 252]). Next to it was a cave that, the *Vinaya* implies, was used by monks travelling to the city from outside the region (*Suttavibhaṅga Parājika* [I, pp. 274-275]; *Cullavagga* IV.4.4 [V, pp. 99-100]).

Sappinī - also Sappinikā, a winding river or stream through the city. The Paribbājakārāma was on its banks. It is identified by Law with the present Panchana

River (1954, p. 258), presumably because it, too, is meandering. But it does not go near New Rajgir or through the valley (PPN II p. 1031).

Śrāvana - a square in the centre of the city, from where proclamations were made to the populace, according to the *Mahāvastu* [p. 93]. "Open places of the city" are mentioned in the Jain *Antagadadasao* (Barnett 1907, p. 88).

Subhūmibhāga - a park near Rājagṛiha. Four other parks of the same name are found in Jain sources (Mehta et al., pp. 828-829).

Supatiṭṭha Cetiya- a shrine within Laṭṭivana (PPN II p. 1218).

Sūkarakhatalena - the Boar's Cave, located on the side of Gijjhakūṭa according to the *Majjhima Nikāya* (Sutta 74 [II, p. 176]. A number of sūtras were preached here, and it is found in the standard topographical lists[56]. (PPN II pp. 1271-1272).

Sumāgadhā - or Sumāgavā, a lotus pond or tank near Rājagṛiha, and also a river associated with it. The Moranivāpa and the Paribbājakārāma in Queen Udumbarikā's park were both nearby (PPN II pp. 1247-1248). In the Mid-Eastern Circle's excavations of the 1950s a long wall of large blocks was discovered, with red earth on top. It ran along the south of a road leading to Chaṭhagiri. It did not seem to be part of a defensive structure, but was judged to be part of a reservoir leading to Soṇagiri,

[56] i.e. DN 16.3.41-42 [p. 252], and *Suttavibhaṅga Parājika* [I, pp. 274-275] and *Cullavagga* IV.4.4 [V pp. 99-100] in the *Vinaya*.

touching the wall that came down the slope in a crescentic fashion[57]. The excavators argued for its identity with Sumāgadhā (Banerji 1958, p. 11). But there is no evidence in the Pāli texts as to where this lake was in relation to the city. Sen suggested it lay to the north of the old city, and was a dam on the Sāraswatī river (1918, pp. 115-116). The location of the Morānivāpa on the banks of the river and in Veṇuvana supports the identification, though this would mean finding somewhere else for Tapodā. The impossibility of satisfactorily resolving the question of its location is another indication of how imprecise on geography the Pāli accounts are. The second-century A.D. sculpture in Mathurā sandstone found at Maṇiyār Maṭh has an image of a nāgī named Bhaginī, Sumāgadhī, (Nazim 1990, p. 46), providing independent verification of the place-name.

Taṇḍulapāladvāra - a gate in the wall at Rajgir (Horner 1954-59, Sutta 97, p. 372). According to the *Majjhima Nikāya Commentary,* it was one of the minor gates (PPN I p. 987).

Tapodākandarā - a cave near the Tapodārāma park, used as accommodation by the monks (PPN I p. 993).

Tapodārāma - a park around the lake, in which was a vihāra where the Buddha stayed a number of times. It is described as being far enough away from the city for monks visiting from a distance to stay at (PPN I p. 993)

[57] The complex of embankments in this part of the valley were described also by Jackson (1917, p. 268), who believed them to be partly road and partly protective for a settlement at the foot of the hills.

Tindukakandarā - a cave used for monks' accommodation, named after a type of tree which was presumably close by (PPN I p. 1012).

Udumbarikāvāna - the queen's park containing the Paribbājakārāma (DN 25.1 [p. 385]: PPN I. p. 379).

VI. Related Sites in Magadha

Few of these have received attention; what attempts at identification there are (e.g. Pandey 1963) are based largely on similarities with modern names.

Ambalaṭṭhikā - a village on the road between Rājagṛiha and Nālandā. It had a royal resting house where Buddha and his followers frequently stayed (PPN I p. 158). Its position makes Silao, just to the north of Rajgir, the most likely candidate.

Ambalaṭṭhikā – a park of the same name, located in the brāhmaṇa village of Khānumata (cf. DN 5.1 [p. 133]: PPN I p.158).

Ambasaṇḍā - a brāhmaṇa village to the east of Rājagṛiha and south of Vediyaka. Named after the many mango groves in the area (PPN I p.161). Dey identified it with the town of Giriak (1927, p. 6), implying Giriak mountain was Vediyaka.

Andhakovinda - a village about three gāvutas (6 miles/10 kms.) from the city, with Sappinī lying between the two. A cart road connected it with Rājagṛiha. (V. *Mahāvagga* II.12.1 [IV, p. 142]; PPN I pp. 106-107).

Apara-Gayā - site near Gayā (Law 1954, p. 205).

Codanāvatthu - an area near the city, mentioned in the *Vinaya Mahāvagga* II.17.1-6 [pp. 152-154] (PPN, I p. 915).

Gayā - on the road between the Bodhi tree and Varāṇāsī. An important religious festival was associated with its bathing ghāṭ, located on the Nerañjarā River, which was also called Phaggu (Skt Phalgu, its present name). It was deserted when Faxian visited it (PPN I p. 752).

Gayāsīsa - a hill near Gayā. Both Buddha and his rival Devadatta were here, the latter establishing a monastery with Ajataśātru's help. The commentaries record the presence of a flat stone shaped like an elephant's head. The hill is now known as Brahmayoni (PPN I p. 753).

Indakūṭa - peak near Rājagṛiha, home of the yakkha Indaka, and where the Buddha once lived (PPN I p. 211)

Indasālaguha - the visit by Sakkha (Sanskrit øakra, or Indra) to the Buddha was recorded in a number of texts, including the *Sakkapaṭha Sutta* of the *Dīgha Nīkāya*

[pp. 321-334]. He visited the Indasāla (Sanskrit Indraśaila) cave, clearly named after the incident, which is "in Magadha, to the east of Rājagṛiha, by a brāhmaṇa village called Ambasaṇḍā, to the north of the village on Mount Vediya..." (21.1 [p. 133]). He was accompanied by a retinue including the 33 gods and Pancaśikha of the Gandharvas, who attracted Buddha's attention with a love song on the harp. The visit was to ask the Buddha a series of questions. According to Buddhaghoṣa it lay between two overhanging rocks, with a large sāla tree at the entrance. Villagers had added walls, doors and windows, and presented it as a gift to Buddha In the *Saṃyutta Nikāya* the location is said to be Gijjhakūṭa (XXXV.III.2.118: [IV pp. 61-62). But Faxian identified the hill as small and rocky and some distance from Rājagṛiha. The "stone room" in which Buddha had lived faced the south, and he commented that Buddha's answers to the 42 questions asked by Indra had been written into the rock there, the traces of which still remained. Xuanzang also visited, describing it as a "little hill of the isolated rock". He seems to be describing the same place, and also refers to the cave as being on the south side of a steep mountain (whereas the cave in the *Sakkapaṭha Sutta* was on the north). And he implies the writing consisted of Indra's questions, not Buddha's answers. The monks are the only ones to mention writing, or the number 42 (Giles pp. 48-49; Legge n. 4, p. 80; Watters pp. 173-174; PPN II p. 313). The fact the mountain was still remembered in the medieval period is indicated by a 9th-century inscription from near Bihar Sharif, describing two stūpas as being the equal in beauty to the mountain (Kittoe 1848b, p. 495). The mountain in question is almost certainly Giriak[58].

[58] Cf. Chapter Seven.

Jaggherī - according to the *Illisa Jātaka* it was a town adjacent to Rājagṛiha (No. 78 [I p. 195]).

Kalavāḷagāma - village (Law 1954, p. 224).

Khalatika Hills - mentioned in the *Sutta Nipāta* and identified by Law with the Barābar Hills in Gayā District (Law 1954, p. 229).

Khānumata - Magadhan brāhmaṇa a village, where the Ambalaṭṭhikā shrine was maintained by gift of Bimbisāra (DN 5.1 [p. 133]: PPN I p. 716)

Kolitagāma - near Upatissagāma and Rājagṛiha, and about eight or nine li south-west of Nālandā (Law 1954, p. 230: PPN I p. 689)

Koṭiśila - Jain tīrtha (sacred site) in Magadha (Law 1954, p. 230).

Kukkuṭapādagiri - Sanskrit Gurupādagiri, it lay about 100 li east of Bodhgaya. It had three-fold cliffs and deep ravines (Law 1954, pp. 230-231).

Macalagāma - village with a number of roads, rest-houses, tanks and large buildings. It is recorded in a number of later texts, including the *Jātakas* [I, No. 31, p. 77], where it is described as a hamlet of 30 families (Law, p. 232).

Magadhakhetta - a large, terraced, rice-field, that could be seen from the Indasāla cave. Its terrace pattern gave rise to the design on Buddhist monks' robes (PPN II p. 409)

Nālā - a village in Magadha, near the Bodhi tree. It is described in a commentary as brāhmaṇa. (PPN II p. 57).

Nāla - another brāhmaṇa village near the city. It seems to have had a number of different titles in the Pāli sources; it was also called Nālaka, Nāla or Nālika/Nāḷika, and Nāḷakagāma It was also called Upatissagāma deriving this name from its heads, who belonged to the Upatissa clan. (PPN I p. 293: II p. 55).

Nālandā - a town near the city, often described in the sources as a "suburb". The Rājagṛiha-Nālandā road passed through Ambalaṭṭhikā; and after leaving Nālandā, went on to Pāṭaliputra. It was already a large town in the Buddha's day, according to the Kevaddha Sutta (DN 11.1 [p. 175]). The *Mahāvastu* refers to a wealthy village about half a yojana (c. three miles) from the city, called Nālandāgrāmaka (Jones, 1956, p. 56). This could be argued to be Nālandā; but the latter is further away than the text indicates, and it could be a reference instead to Nāla (PPN II pp. 56-57).

Pāsāṇaka - a cetiya (caitya) site, on top of one of the Khalatika Hills (*Sutta Nipāta*, verse 185 [p. 80] on top of a large rock. It became a vihāra in the form of a large hall, which was built and presented to Buddha, allegedly by the god Sakkha (PPN II p. 196).

Pāṭaligāma/Pāṭaliputta - only a village in the Buddha's time. He came across it when two of Ajātaśātru's ministers, Sunīdha and Vassakāra, were fortifying it against Vajji attack. Xuanzang records Kālāsoka as having used it as his capital, but the Jain sources credit Udāyin as the ruler who chose it as a capital. Certainly his grandson, Munḍa, is recorded by the *Anguttāra Nikāya* as ruling from there (AN.V.V.50, [III, p. 48]). Other recorded names include Pupphapura, or "City of Flowers" (*Mahāvaüsa* IV 31 [p. 22]. The village of Koṭigrāma lay on the opposite bank (Law 1954, pp. 249-251: PPN II p. 179).

Sāliggāma - Sanskrit Sāligrāma**.** A village mentioned in Jain texts (Mehta et al., p. 779).

Sālindiya - brāhmaṇḍa village to the north-east of the city, which existed in the time of King Māgadha (*Jātaka* No. 484 [IV,p. 175]). It is also described as on the east side of the city in *Jātaka* No. 389 [III, p. 184). (PPN II p. 1123).

Senānigama - a group of Magadhan villages, the exact position of which is unknown (Law 1954, p. 259).

Sīlaguhā - robbers' base to south of Rajgir. Mentioned in Jain texts (Mehta et al., p. 802).

Uruvelā. It lay about three gāvutas from Gayā, near to the modern Bodhgaya, and on the bank of the Neraṭjarā. It was here that the Buddha stayed for six years until he achieved enlightenment. Its name may possibly derive from "great sandbank". The

Mahāvastu names four villages in Uruvelā (Praskandaka, Balākalpa, Ujjaṅgala, and Jaṅgala), suggesting that the name is of an area rather than a settlement (PPN I pp. 435-436)

Vediya - or Vediyaka, a mountain to the north of Ambasaṇḍā, and in which the Indasālaguha cave was located (PPN I p. 921). Both Cunningham and Stein identified Vediya with a mountain about two miles southwest of Giriak (Cunningham: Stein 1901, pp. 54-55). Kittoe, however, identified it with a rock near Bihar Sharif (1847, pp. 953-954). Dey implied it was Giriak, presumably based on Ambasaṇḍā's location (1927, p. 6).

APPENDIX II

THEORY AND METHOD OF SURVEY

This appendix seeks to give a review of methodology in modern survey, and its application fieldwork in India. In particular it seeks to demonstrate how extensive survey in the manner carried out at Rajgir can be justified given modern emphasis on intensive survey techniques.

I. Introduction - Archaeological survey can be defined as the "search for ancient sites in their natural setting" (Levy 1997, p. 101). The definition implies that one is investigating both patterns of settlement and the landscape in which those patterns are situated. Although landscape was an interest of early British antiquarians such as Stukeley, survey was pioneered from 1820 in the southern Levant and Transjordan. It was initially "source-driven", i.e. dependent on a text-based historical geography. It also tended to cover large areas and to be interested in prominent sites, rather than covering all signs of human activity in a restricted area. Examples of this approach include Sir Aurel Stein's work - for instance his tracing of Iranian trade routes, or of Roman roads in Syria (Stein 1940; Gregory and Kennedy 1985). In India, Cunningham surveyed large tracts of the north, guided by Greek and Chinese sources and attempting to match sites with textual descriptions (cf. Cunningham 1924).

Although important surveys were carried out in the early twentieth century, by figures such as Fox (1923) and Crawford (1921), modern methodology may be said to have begun with Willey in the Virú Valley of Peru (1953). This methodology can be characterised as a focus on regional analyses of evolving settlement patterns, coupled

with a more problem-oriented approach (Levy 1997, pp. 101-102; Ammerman 1981, pp. 65-67).

Cherry and Ammerman list four main disadvantages of survey (Cherry 1983, pp. 374-375; Ammerman 1981, pp. 76-77), to which a fifth has been added by Haselgrove et al. (1985, p. 9):

1. It provides only a coarse chronology.
2. Site distributions from different periods are difficult to separate.
3. The movement of artefacts means that site boundaries or the presence of small sites can be hard to find.
4. The functions of different parts of a site cannot be determined
5. Artefact clusters do not necessarily equal sites, so that, more than excavations, formation processes must be investigated before conclusions are made

While these should always be kept in mind the great advantage of survey is its ability to investigate pattern and change over large areas. When this is combined with excavation at key sites the results are even more useful.

Accessibility of the sites and off-site scatters can be a key issue. The seven key accessibility variables are:

1. Climate
2. Flora and Fauna (including dangerous ones)
3. Terrain
4. Accessibility of Essential Goods/Service
5. Land-Holding Patterns
6. Political Climate
7. Adequacy of Road System

(Bower 1986, p. 25)

Once access is achieved, three important variables listed by Kirkby and Kirkby come into play: the natural and/or cultural processes operating on the site since the artefacts were deposited; the conditions under which the survey is conducted (e.g. methodology, experience, weather); and luck (1976, p. 229). To this one may add the degree to which diagnostic artefacts can be successfully assigned to discrete periods (Malone and Stoddart, forthcoming).

II. Soil Surface - A survey's reliability depends very much on whether the types and percentages of surface artefacts mirror the total number in a site/area, and this cannot be taken for granted. The soil surface is itself a result of sampling process (Ammerman and Feldman 1978, pp. 734-740); soils are dynamic and prone to a variety of disturbances, including those by fauna (especially earthworms)[59], gravitational movement of soil, and the contraction and expansion of clays. Artefacts can quite easily sink into the earth, and/or be eroded, mixed, sorted and reoriented, creating different patterns of association (cf. Wood and Johnson 1978). This is even before disturbances such as trampling underfoot, ploughing or other re-use of the site are taken into consideration[60]. Even in the case of ploughsoil, which should have a lot of artefactual content on the surface, the gap between the "sampled population" (what is on the soil surface) and the "target population" (all artefacts in the ploughsoil) is quite large. And the target population also changes, as some material decays while artefacts from lower deposits move upwards (Haselgrove et al. 1987, pp. 8-9). An experiment in a more fertile landscape (the Stilo region of Calabria, Italy) involved placing 40 marked sherds 25 cms. below the ground in a field. When the field was searched a year later none of the sherds were located (Hodder and Malone 1984, pp.

[59] There is a steady decrease in surface sherd densities as one moves from Oman to England; this is attributed to varying rates of microfaunal burrowing (Bintliff and Snodgrass 1988, pp. 510-512).

123, 125)[61]. Kirkby and Kirkby found that in semi-arid, alluvial environments there was a high rate of erosion, with low mounds becoming surface scatters in anywhere between 500 and 2000 years. They also found that the decrease in the percentage of sherds on the ground after the first century was exponential. Cultural accumulation and natural alluviation also affected percentages by pushing the levels from which sherds came further below the surface (1976, pp. 251-252). On the positive side, Adams and Nissen found that in Mesopotamia sites were not buried under metres of alluvium; they were sometimes 2 metres or less below the surface, and the mounds were still visible[62]. They attributed this to the effects of aeolian action (Adams and Nissen 1972, pp. 6-7).

And what evidence there is suggests that sherds do not appear to move very far from their point of deposition, apart from downslope movements (Rick 1976)[63]. Even at sites where a number of processes have been at work it is still quite possible for some of the original pattern to be preserved (cf. the analysis of Wood and Johnson 1978).

III. Other Conditions - These include: the pattern of land-use, with wooded areas and growing crops yielding up to five times less than ploughed/harrowed soil in one survey (Hodder and Malone 1984, p. 128); in open fields, whether the soil is weathered or freshly ploughed, the latter making sherds easier to spot; whether soil is sticky from recent rainfall or dusty and dry; and the position of the sun, the degree of

[60] Formation processes, both human and natural, are described in Schiffer 1987.
[61] The authors note, however, that Stilo is a region with heavy erosion and intensive modern agriculture (p. 123).
[62] However, other researchers have found sites more than five metres below the surface, while many mounds have been partially or wholly eroded. Single-occupation sites in particular have been in danger of disappearing. So the situation is more complex than Adams and Nissen implied (A. McMahon pers comm).
[63] This includes mound sites, where down-slope movement can be a constant.

shadow and the level of light[64] (Barker et al. 1995, p. 48). The interplay between wind, rainfall and vegetation cover seems to be an important determinant in visibility. Shennan has compiled a list of natural variables relevant to fields, and much of it is relevant to other types of landscape:

Independent Variables (Potential Distortions):

1. Soil Moisture
2. Ground Conditions of Field
3. State of Crop (if sown)
4. Light Conditions
5. Subjective Assessment of General Visibility
6. Presence/Absence of Deep Ploughing[65]

Topographic/Environmental Variables

1. Type of Nearest Water Source
2. Field's Surface Geology
3. Main Geology within 2 kms
4. Topography of Field
5. Aspect of Field
6. Maximum Slope
7. Altitude
8. Land Classification

Using regression analysis on densities of the commonest artefacts on a survey in Hampshire, Shennan found that all of the above accounted for about 50% of variability (1985, pp. 35-39)[66].

Visibility of particular artefacts is also important e.g. black sherds stand out more clearly than buff. And abilities of the survey team members also make a difference.

[64] Hodder and Malone argue reported that sherds collected when walking towards the sun were larger on average than when walking away from it, suggesting that keeping the sun at one's back improves visibility (p. 130).
[65] There are two more independent variables, but they relate only to British conditions.
[66] Although this was in Britain, where a greater percentage of material is below the surface than in semi-arid conditions.

Individuals seem to have different levels not only of experience, but also of expertise in spotting various types or sizes of artefacts, and probably different levels of motivation (Barker et al., pp. 47-48: Hodder and Malone, p. 129). However, in one experiment personnel accounted for only 10% of variance in pottery and burnt flint collection (3.2% for chipped stone) (Shennan 1985, pp. 40-44).

The importance of all of these variables taken together was illustrated by Ammerman, who conducted a series of collections in the same area under different conditions, and found that the ratio of observed to actual varied from 1:14 to 1:23 (1985, pp. 139-140).

In sum, it can be expected that a good deal of information will inevitably be missed, whatever the environmental context. In Mesopotamia Adams re-studied random squares of territory to test his results and concluded that up to 1/3 of the total number of sites could have been missed, all of them being small and low. There was thus a bias against both the earliest sites (Adams 1981, pp. 40-42)[67] and single-period sites of any period, meaning short-term villages were especially under-represented (A. McMahon pers. comm.). In Boeotia Bintliff and Snodgrass noted that sites could appear and disappear in a single season, though at any one time about 16-17% of all sites were probably visible (1988, p. 509). This means that a sequence of surveys of the same area is more reliable than a single one (Shott 1995).

IV. Methodology- Most would agree that intensive survey is far more effective than extensive; locating up to 70 times more sites and being more successful in locating

[67] Although this is also due to his relatively "extensive" methodology (cf. below).

small artefact scatters.[68] There is also widespread agreement that not only "sites" should be recorded but all artefact scatters, however small. This will give a better idea of human activity within a particular area and dispense with any arbitrariness of a site/non-site distinction (Foley 1981, pp. 10-31: Dunnell and Dancey 1983, pp. 267-274). How one defines "intensive" of course is a matter of debate. Those regions that have greater sherd densities on the surface may require different levels of intensity. And Shennan makes the point that different periods may require different intensities; in England, Early Saxon sherds are rarer than Late Saxon, so need more thorough coverage (1985, p. 8).

V. Sampling - Any survey covering large tracts of territory cannot examine every square metre; so sampling strategy is crucial. There are five basic types:

1. Non-systematic fieldwalking. This includes selecting areas, which are easier to explore, or areas which one feels have potential, as well as those surveys where one looks only for sites over wide areas. Lal's and Erdosy's village-to-village method falls into this category, as do Cunningham's and Stein's.
2. Systemisation. Units, either transects or quadrats[69], are placed in a survey area at equal distances from each other, in order to ensure objectivity, and avoid selections if favour of determined ideas about site patterns. Significant gaps can be plugged after the initial choices are made.
3. Random sampling. The transects/quadrats are placed at random over the entire survey area, to avoid the bias of regular spacing.

[68]The claim that an intensive search could be 60-70 times more effective was made by Cherry, who compared examples of the two types of survey carried out in Greece (1983, pp. 390-394). Also cf. Alcock et al. 1994, p. 138, for whom intensive survey is the only justifiable strategy.

[69] Plog et al. argue that parallel transects are superior to quadrats, since they are able to cover more area (1978, pp. 401-402). Others such as Barker use a mixture (1995, pp. 41-42).

4. Cluster sampling. Units are placed at random, each unit having within it several periods. An assemblage from one period taken from a particular unit is then compared with assemblages of the same period from the other units.
5. Stratified random sampling. The survey area is divided into a number of equally sized units, each then being randomly sampled.

Of the five types, random sampling allows one to make statistical estimates of the total numbers of sites, but stratified random sampling ensures an evenness of coverage and a better chance of detecting distribution patterns; this is especially useful when the survey area has different environmental zones within it. (Whallon 1983, pp. 74-75: Hodder and Malone 1984, pp. 125-127). Multistage sampling, where an initial survey gives an idea of which areas might be important to sample, may also be used (Plog et al. 1978, p. 404). Naturally, however, factors such as the size of fields, pattern of cover, problems with landowners etc. will still intrude; one can at least record such problems in any report (cf. Barker 1995, pp. 41-42). But one need not exclude all biases from research design; choosing where to sample can raise discovery rates, especially when there is only a little in a large area. And rarer or more clustered materials can be found when there is a heavier sampling of areas with heavier densities of artefacts (Schiffer et. al. 1978, p. 5)

The same considerations apply to sampling a single site if it is too large for complete coverage. The Argolid expedition's method for any sites over a hectare in size involved sampling in units of $10m^2$, with large teams; diagnostic artefacts were collected from the whole site (Jameson et al. 1994, pp. 225-225). Again, intensive sampling is better than extensive, as it enables one to determine site boundaries: have

quantitative data on artefact types; develop theories about the functions of different parts of the site; and, if excavating, check the relationship between surface and sub-surface materials, and the effects of surface disturbances (Lewarch and O'Brien 1981, p. 329). Grab sampling does not allow enough spatial control for them to be representative of all parts of the site, or provide evidence of temporal changes (Lewarch and O'Brien, pp. 299, 317).

VI. Difficult Environments – The vast majority of projects have taken place in relatively accessible terrain, and much of the survey and sampling theory is derived from environments conducive to such projects – e.g. the Mediterranean and the southwestern United States. Other environments, such as the tropical jungles of South America and Africa, are more problematic. In the temperate woodlands of the eastern United States, much survey is carried out using test pitting and core sampling as discovery techniques. Although such methods discriminate against smaller sites and scatters, and cannot be used on their own to reconstruct site patterns or population levels, they are effective in identifying sites where surface inspection is impossible[70]. These methods have now started to penetrate the more difficult tropical zones of South America (Ziedler 1995).

VII. Intensive Survey: Northern Keos, Greece - The northern section of the Cycladic island of Keos (Cherry et al. 1991) constituted the northern hinterland of one of the main classical sites on the island Ayia Irinos, and a large part of its city-state. The survey had a problem orientation, to look at changing settlement patterns and to compare these with other islands, in particular Melos. They eventually chose an

[70] There is a large bibliography for coring and test-pitting, and assessments of their adequacy; Krakker et al. 1983 and McManamon 1984 are the two best references.

average spacing of 15 m[71], which meant an average of 20 man-days per km², and would pick up any site or scatter larger than 0.1 of a hectare. It was decided to focus on sites rather than all artefacts, but scatters of any type were noted. A two-stage survey, the first for examining all scatters and identifying sites, the second for verification of sites and collection, would have been ideal, though time constraints made this impossible. Team leaders recorded general visibility conditions, and areas where visibility was noticeably better or worse; land use: current vegetation: weather: and anything else of interest, including local information. Any scatter identified as a site was checked by a revisit, and a judgement made about its artefact density; its discreteness; its continuity; and the presence or absence of features like architectural remains. Having confirmed its status a number of traits were recorded, including its size and shape; the density variation on the surface; the range of periods represented; the functional categories of artefacts; and any spatially distinct areas of the site use at different periods. A more intensive sampling was then conducted by laying two intersecting transect lines from the approximate site centre, with one of them along the longest axis of the site. The four transects thus created were each assigned to a team member who every 10 metres would plant a flag, attach a 1.26m string to it and pace out a circle of 5m², collecting everything within it. The process was repeated until the artefact density was near zero. Then each member was given a particular quadrant defined by the transects, through which they roamed freely to collect diagnostic material. The site was often visited again the next year, in order to record any changes that had occurred.

[71] Though in practice the average was probably c 20 m (Cherry et al., p. 20).

VIII. Extensive Survey: Southern Mesopotamia - Adams used a mosaic of 12 or more aerial photographs taped together, using parallel aerial runs to even out distortions. Sites were often located in linear sequences, following watercourses. These were separately mapped using the photos. Sites were mapped using one or more sites/features on a photo as a base; others were located with triangulation using a prismatic compass. Multiple readings were taken, which helped to create a margin of error of ± ½ a degree. The results were put onto a provisional base map and the two mappings were periodically compared. Known landmarks on the photos were also used for calibration. Finally the base map was reduced photographically and redrafted. Much of the survey involved driving through arid landscapes, where mounds were easily detectable. On ploughed land traverses were made on foot with team members less than 200 metres apart. On the sites themselves collections were made every five metres, and all diagnostic sherds and stone tools were taken (Adams 1981, pp. 27-45). Clearly his methods were more "extensive" than the Keos expedition's; and this to some extent accounts for his missing up to a 1/3 of sites; it may also explain why so many of the sites actually discovered are mounded ones.

IX. Small-Scale Survey – The small-scale survey cannot be defined in absolute terms; rather, it depends on the scale of the work relative to time and resources available. For instance, 100 people could conduct a large-scale, intensive survey over a 200 kms² area; a small-scale survey might be one conducted over the same area by a single person. The difficulty of the terrain - e.g. whether bare desert or tropical jungle is being covered – is also a factor. Under this definition, then, Sir Aurel Stein's work was small-scale, despite and because of the large distances covered. Such surveys suffer from the problems that all extensive work has – smaller scatters tend to be

missed, sampling becomes difficult, and conclusions about settlement patterns are less well founded. But they come into their own when a region covered is virgin territory, and discovery of any presence of sites in a particular period is the aim. It can thus be an important preliminary stage prior to intensive work and/or excavation.

Examples can be found in Sub-Saharan Africa, where many regions suffer from a lack of previous fieldwork, partly due to an environment that makes territory difficult or impossible to survey. These difficulties can be partly overcome by stratifying the survey region into ecological zones, dividing the survey into two stages, with an extensive search locating areas, which allow a more intensive examination, and exploring along transects when the ground is clear enough. However, there are usually going to be areas that are unsurveyable, there is a bias towards areas which are closest to roads and paths, and *ad hoc* survey replaces transects when there is too little ground visibility. Nevertheless, the results can be productive (Bower 1986: MacLean 1996, pp. 88-128: MacLean forthcoming).

X. Survey in India - most survey on the subcontinent can be defined as small-scale. Cunningham started his work in the 1860s, using the accounts of the Chinese pilgrims to determine routes travelled. His results, published in the *Archaeological Survey of India Annual Reports* from 1871 onwards, and in his *Ancient Geography of India*, are very much within the tradition of text-based archaeology. More recently, there have been a number of surveys of Harappan sites (e.g. Possehl in Saurashtra (1980) and Mughal in Cholistan (1992)). In the Gangetic Valley Makkhan Lal in Kanpur District and George Erdosy in Allahabad District (both in Uttar Pradesh) used the "village-to-village" method, with larger villages used as bases for walks within a 10-12 km

radius. Local information was sought, and Erdosy covered all environmental zones in his area. The position of modern settlements thus determined the routes walked, an important consideration given that the gaps between these routes were anywhere between 1 and 5 kms. But as with Adams, sites were commonly in the form of low mounds, making observation easier. And Lal did most of his survey in the summer, so that the lack of crop or natural cover would make locating flat sites easier (Lal 1984: Erdosy 1988).

Given the sizes of the territory covered (Erdosy surveyed about 1200 kms^2) it is not surprising that the surveys are both extensive and site-based, with smaller scatters not being considered and unlikely to be observed. The dependence on modern settlement patterns may mean that sites that were part of different patterns could well be missed; and even if patterning did not significantly change over the millennia it is likely that many sites have not been recorded[72]. But the most important problems lay with what was done with the data. Lal assumed all sites had been discovered, and therefore conducted locational or population analyses. He also assumed one could infer relative site sizes from the size of the scatters of diagnostic sherd types - thus ignoring all the literature on artefact movement and site formation processes. Erdosy was more realistic, and tried instead to find all settlement types present in each era, but he followed Lal in relying too heavily on scatter sizes. However, several hundred previously unrecorded sites were discovered between them, and some general statements were able to be made e.g. that in both districts the earliest villages were exclusively sited on river banks, and were founded further away in later periods. The lesson is that one must be aware of what conclusions are possible given the

[72] Indeed, Lal is known to have missed a Buddhist monastic site (Chakrabarti pers. comm.)

methodology. It should also be pointed out that too often writers of survey reports do not specify the conditions under which the survey was made – the extent of alluvial/colluvial cover, the nature of vegetation cover and so on. This means the use of the data collected becomes highly problematic. Therefore explicitness about conditions encountered is also essential.

XI. Conclusion - in sum, a project must assess the following variables:

1. environmental conditions
2. conditions of accessibility (related of course to the environment).
3. the number of people, time and other resources available
4. the size of the area one wishes to cover
5. whether one is aiming at discovery of occupation or patterns of occupation, and if so, at what resolution.
6. the extent of previous survey and/or excavation in the region covered.
7. the degree of chronological resolution discoverable artefacts will provide.

In the case of Rajgir, the environment on the valley floor militated against a conventional intensive survey. Several areas had thick scrub jungle cover, and there was also the problem of colluvium from the surrounding hills. It was thus necessary to walk over as much of the site as possible, and to pay particular attention to areas where the surface had been broken by water action or other means. In circumstances such as these, a productive method of testing would have been auguring at set intervals to at least try to determine the size of the site. However, the valley region is under the ownership of the Archaeological Survey of India, and it was not possible to obtain permission for such testing to take place. This problem notwithstanding, a

number of finds were made that suggest significant occupation and to give the first report of survey covering the whole of the central valley.

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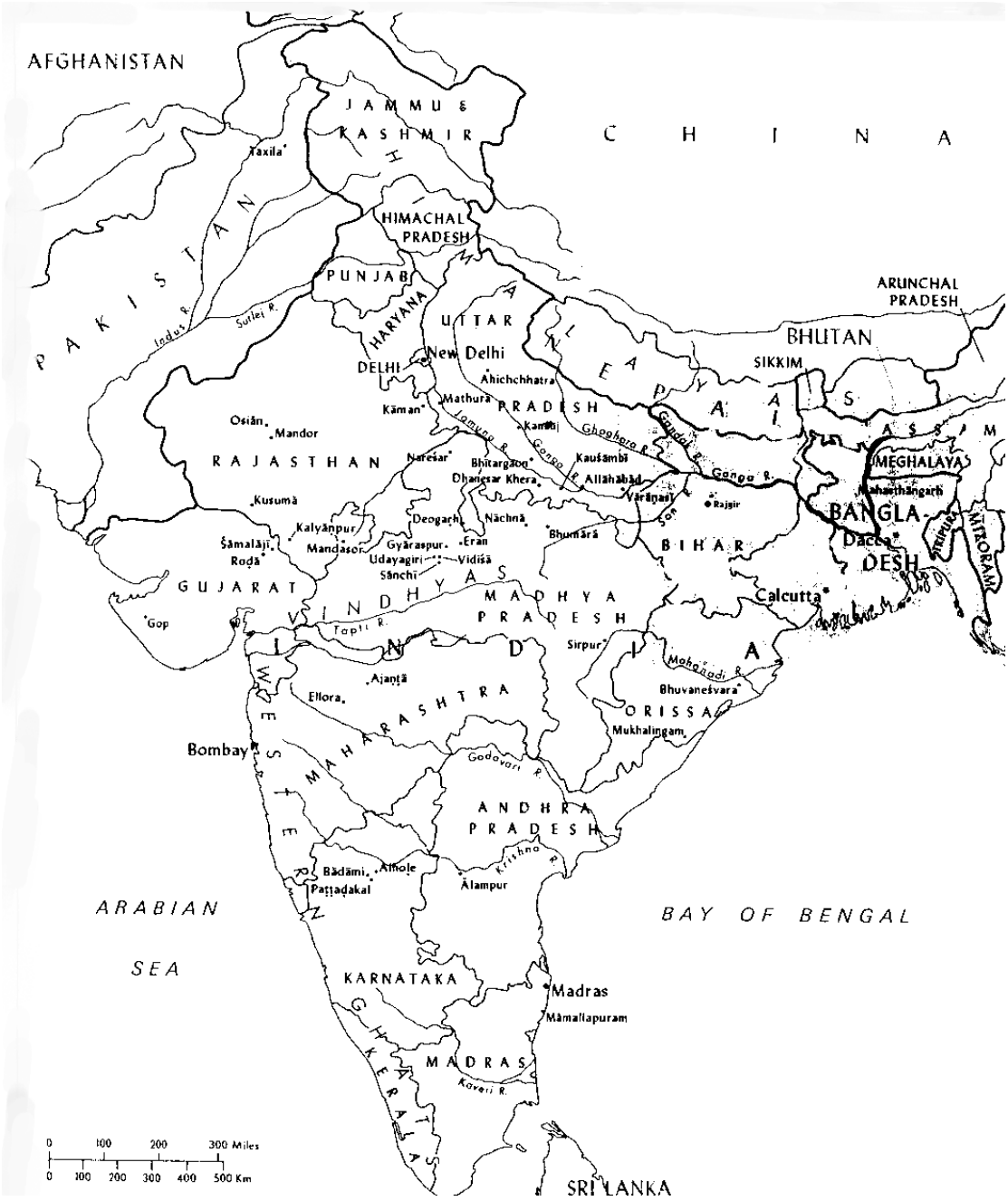
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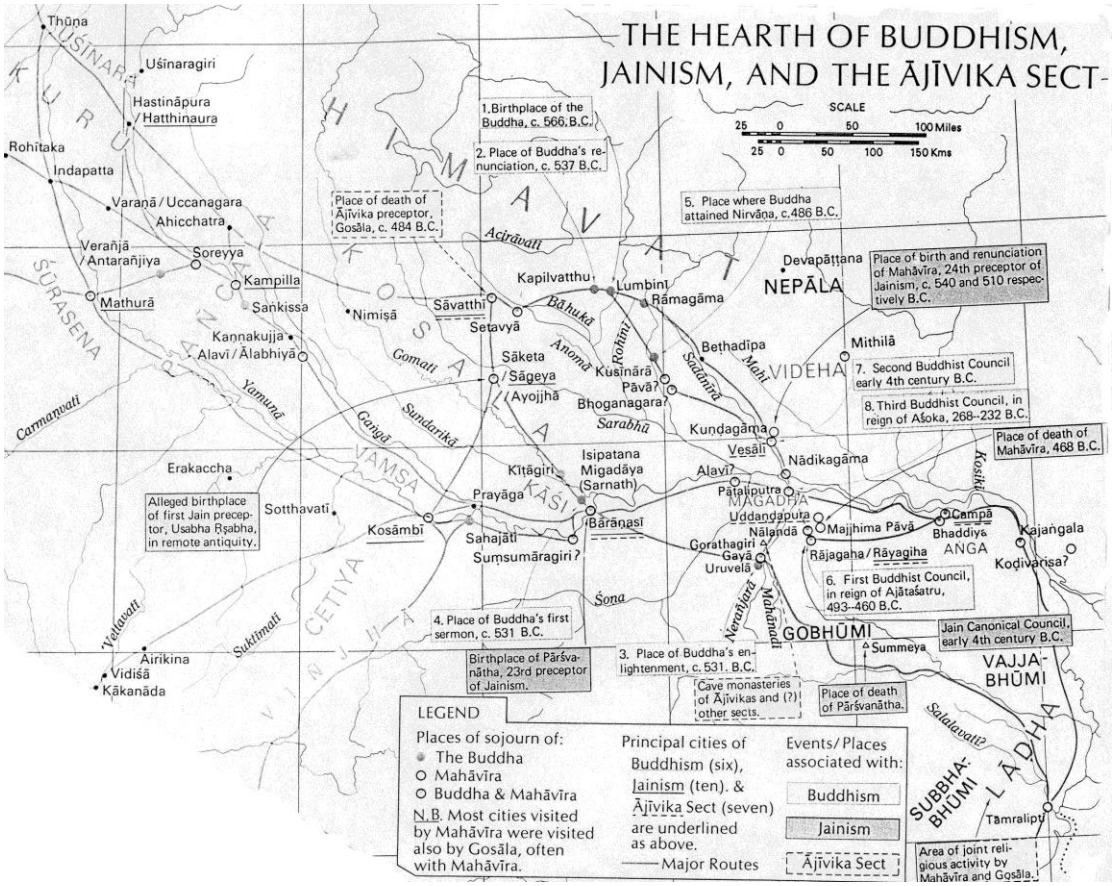
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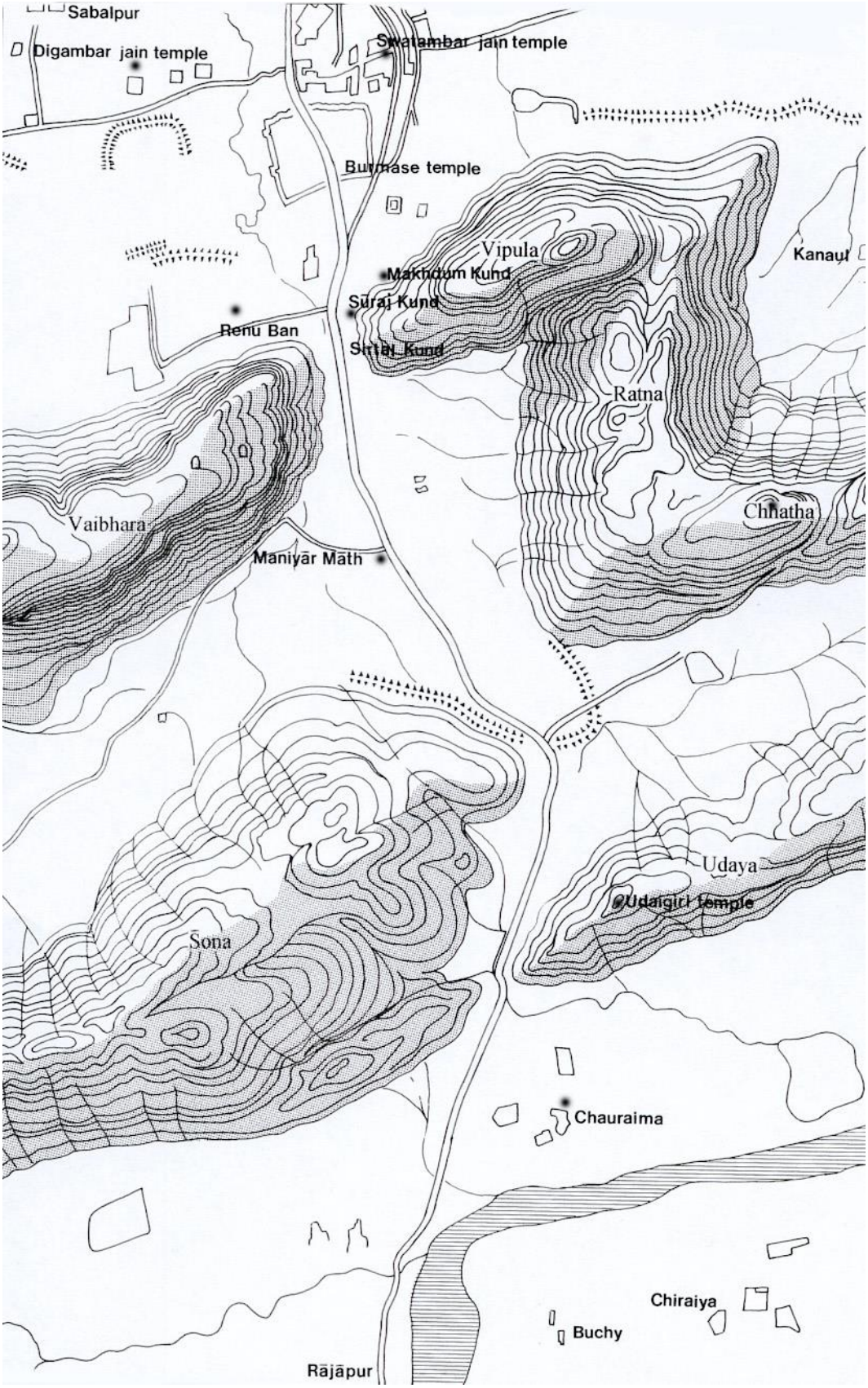
MAPS



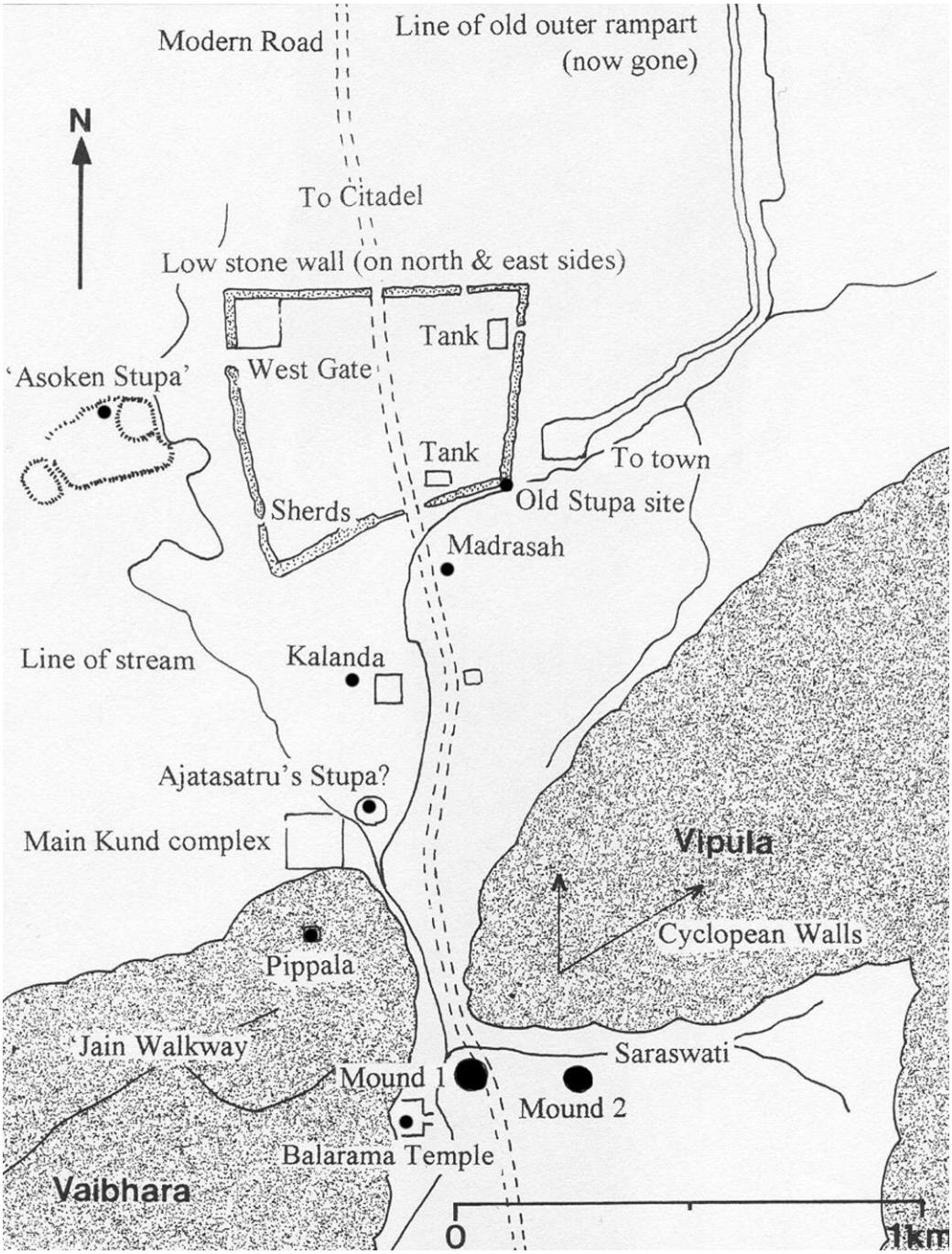
Map 1: Rajgir within India



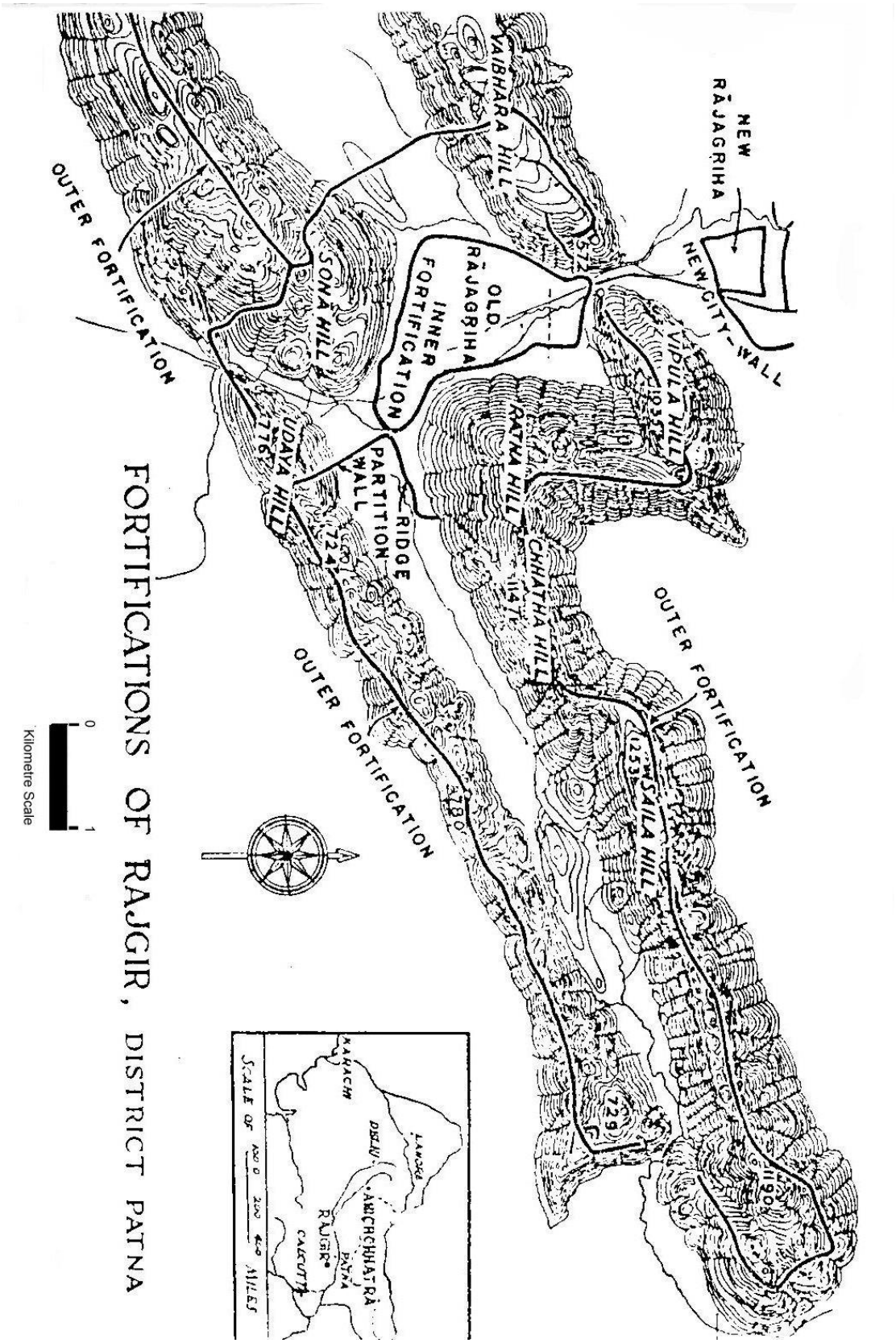
Map 2: Principal cities of Madhyadeśa and the religions connected with them (from Schwartzer et al. 1978, p. 15).



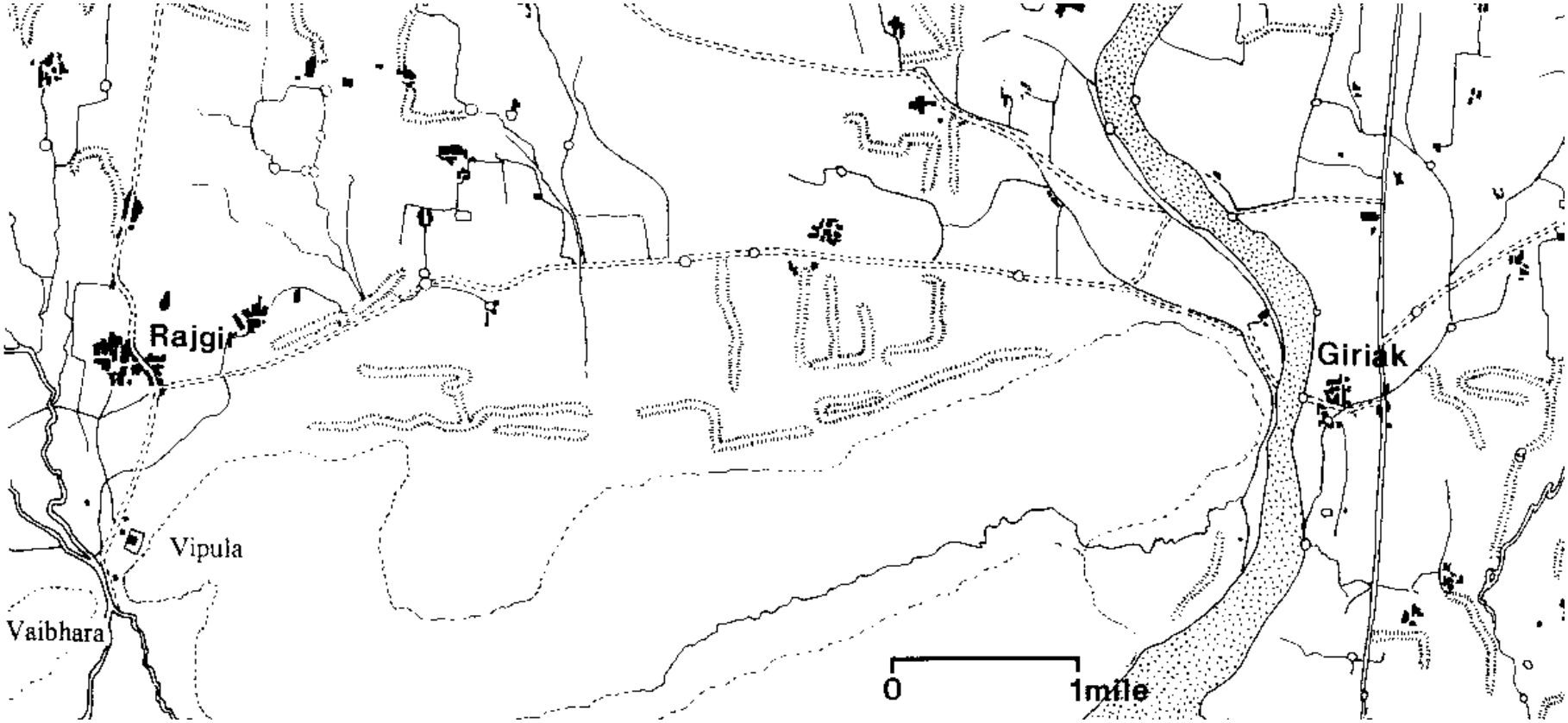
Map 3: The Modern Valley and Town Area



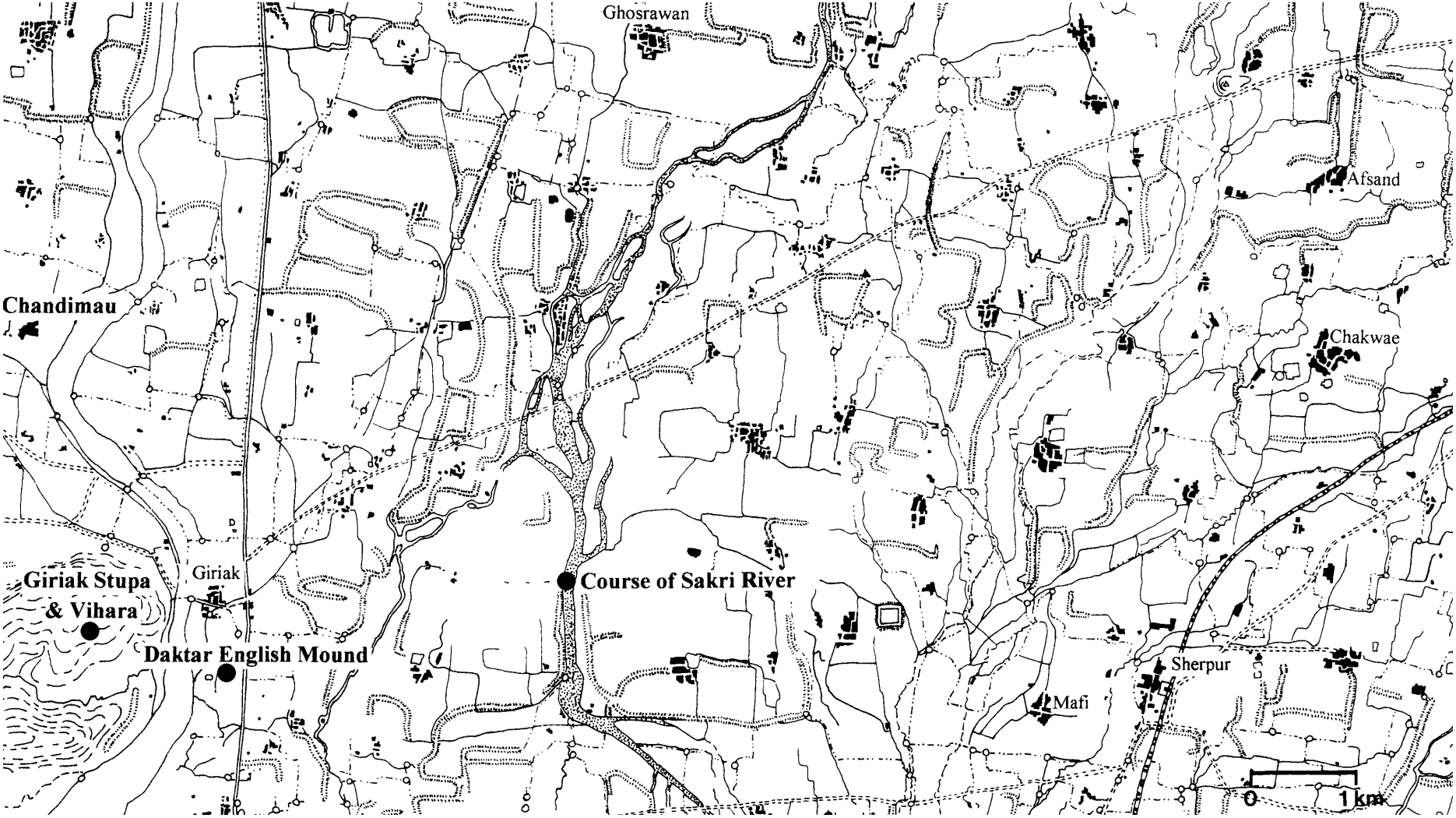
Map 4: The north of Old Rajgir showing the mound sites, the Balarama temple and the lines of walls together with the New Rajgir area to the north



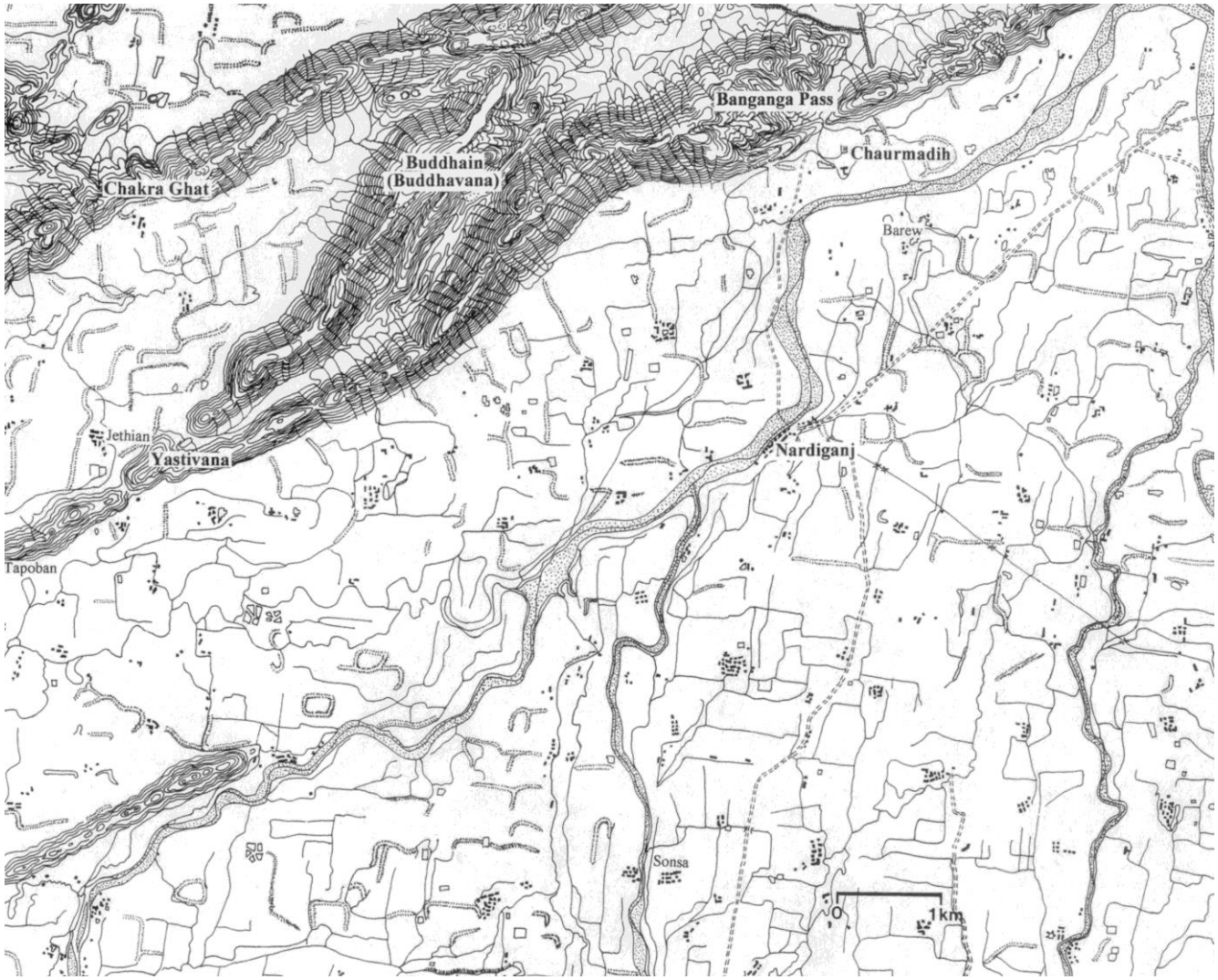
Map 5: A sketch of the Rajgir Hills, showing the putative lines of fortification walls and Giriak (from Kuraishi and Ghosh 1958 Fig. 1, p. 37).



Map 6: The relationship of Giriak and Rajgir



Map 7: Giriak and its surrounding region



Map 8: Area to the South of Rajgir along the Panchana River

FOLDOUT MAP

KEY TO MAP 9

1. The “Aśokan” Stupa

2. The New Rājagṛiha Citadel

3. The “Madrasah”

4. Kalanda Tank

5. Area of Veṇuvana

6. Devadatta’s Cave and Black Rock

7. “Pippala Stone House” and the “Asura’s Cave”

8. Saptaparṇī Cave

9. Balarāma Temple/Elephant Stūpa

10. Jāradevī Mound

11. Mound 2 (Inner Fortification)

12. Ganesh Temple

13. Mahāvīra stūpa

14. Platform and vihāra site on Vipula

15. Purāṇa Talāb

16. Son-Bhāndār Cave

17. Maṇiyār Maṭh

18. Ratna Road site

19. Bimbisāra’s Jail

20. Zig-Zag Wall

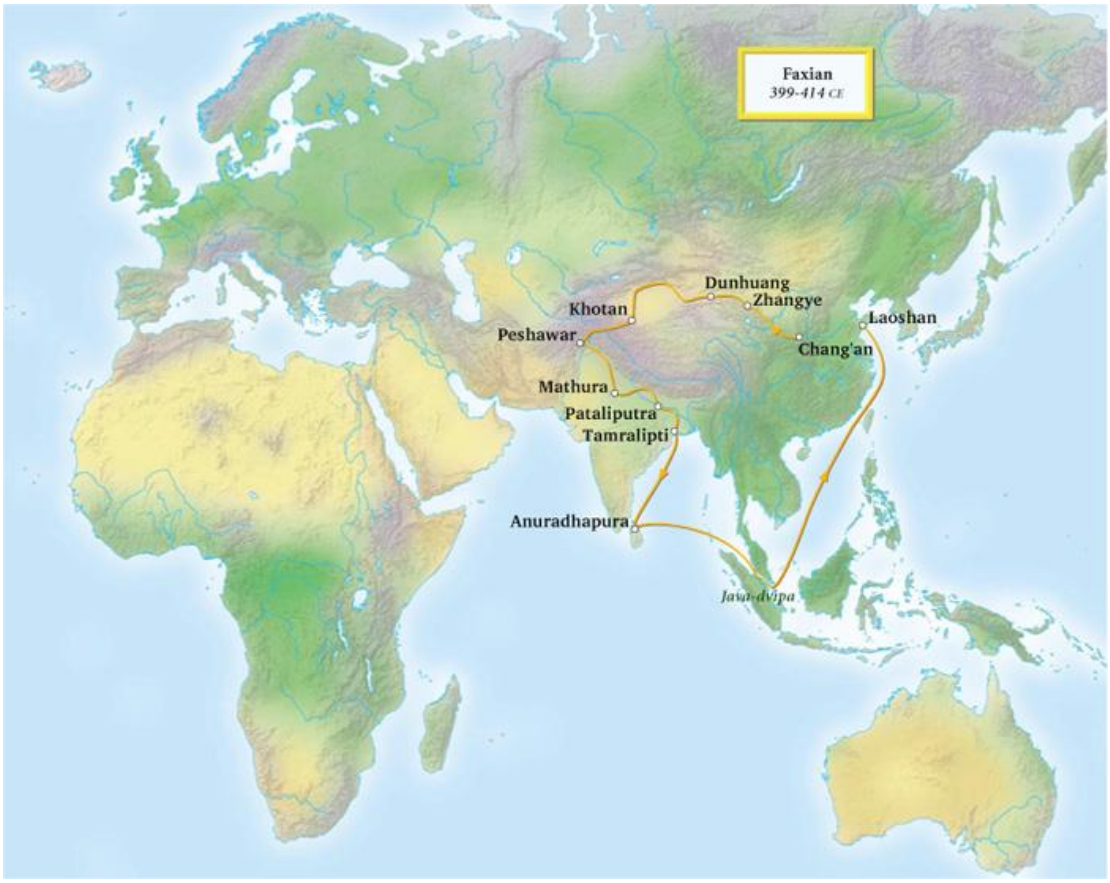
21. Jīvakāmravana

22. Gṛdhakūṭa

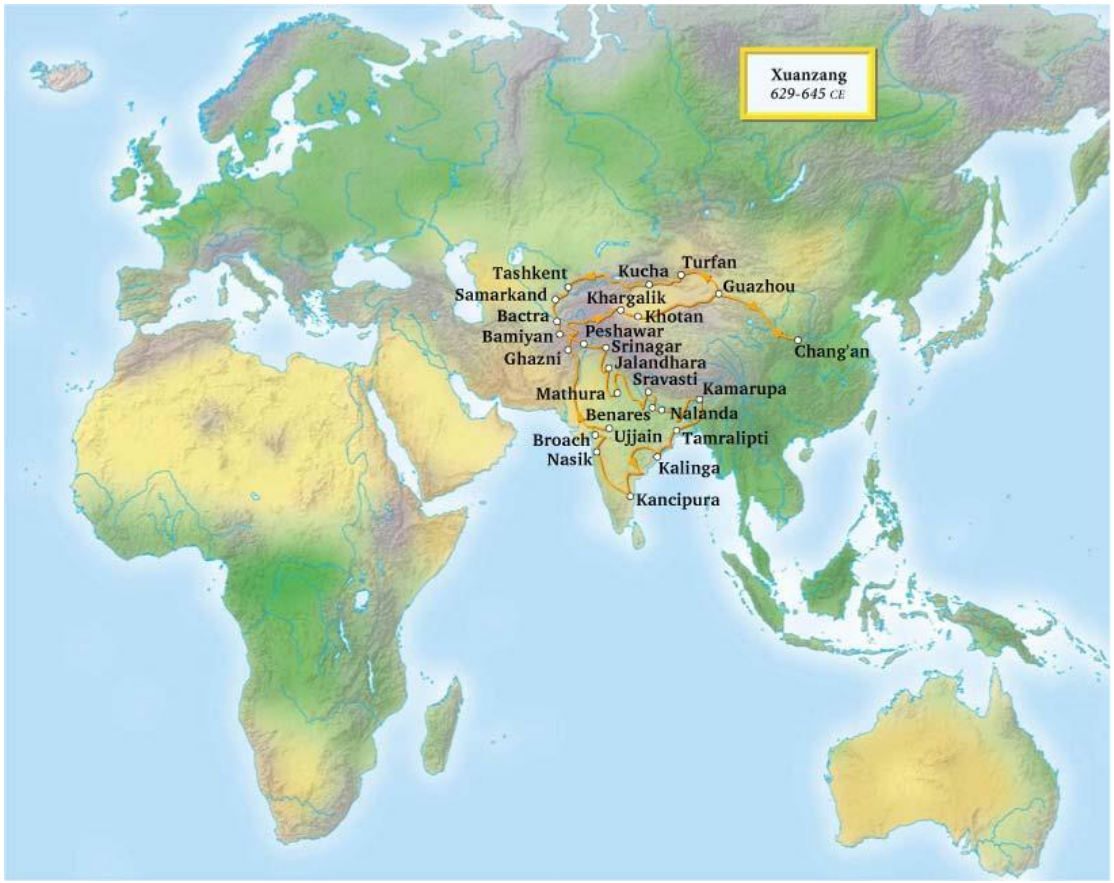
23. Ranbhūmī

24. Bimbisāra’s Chariot Tracks and the Śaṅkhalipi shell inscriptions

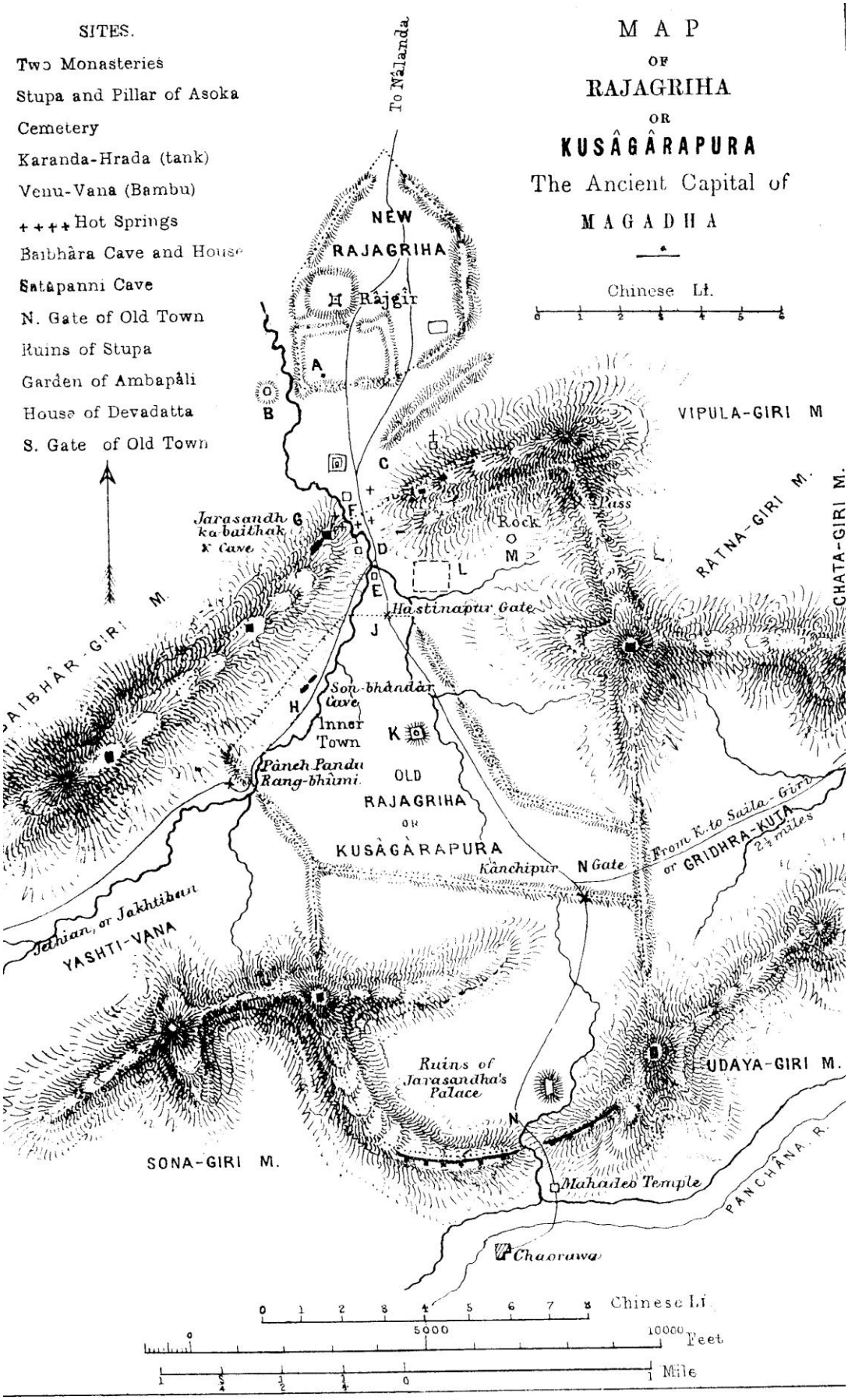
25. Bāngāṅgā Pass and its defensive system



Map 10: Map of Faxian's journey (courtesy Golden Web Project)

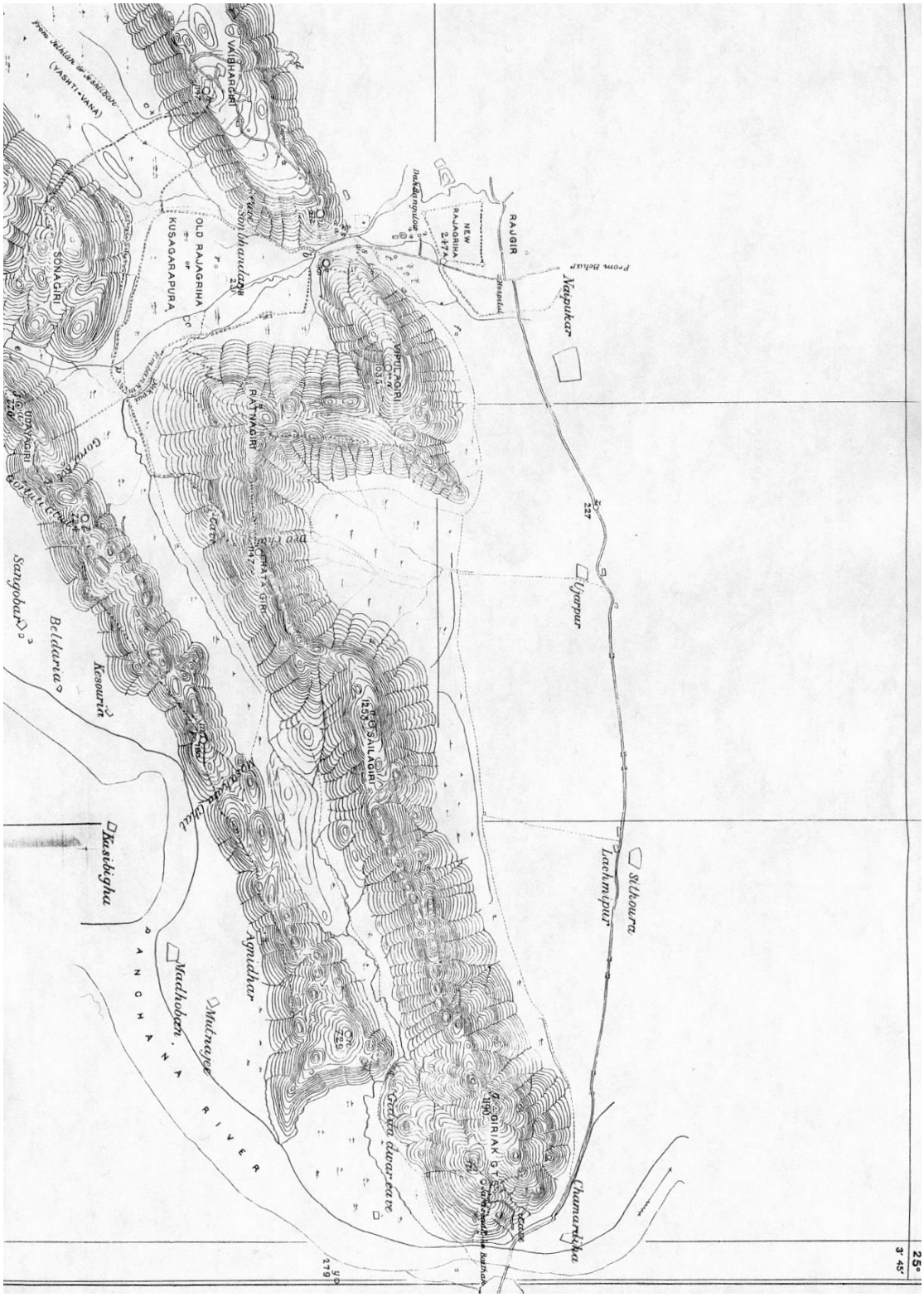


Map 11: Map of Xuanzang's travels (courtesy of Golden Web Project)



Cunningham, del.

Litho. at the Survr. Genl's. Office, Cal. Sept. 1872.



(From Previous Page) Map 12: The 1873 Cunningham Map

(This Page): Map 13: Map of Rajgir area from the 1905/06 Marshall Report

FIGURES



Fig. 1: The valley looking east towards Ratnagiri

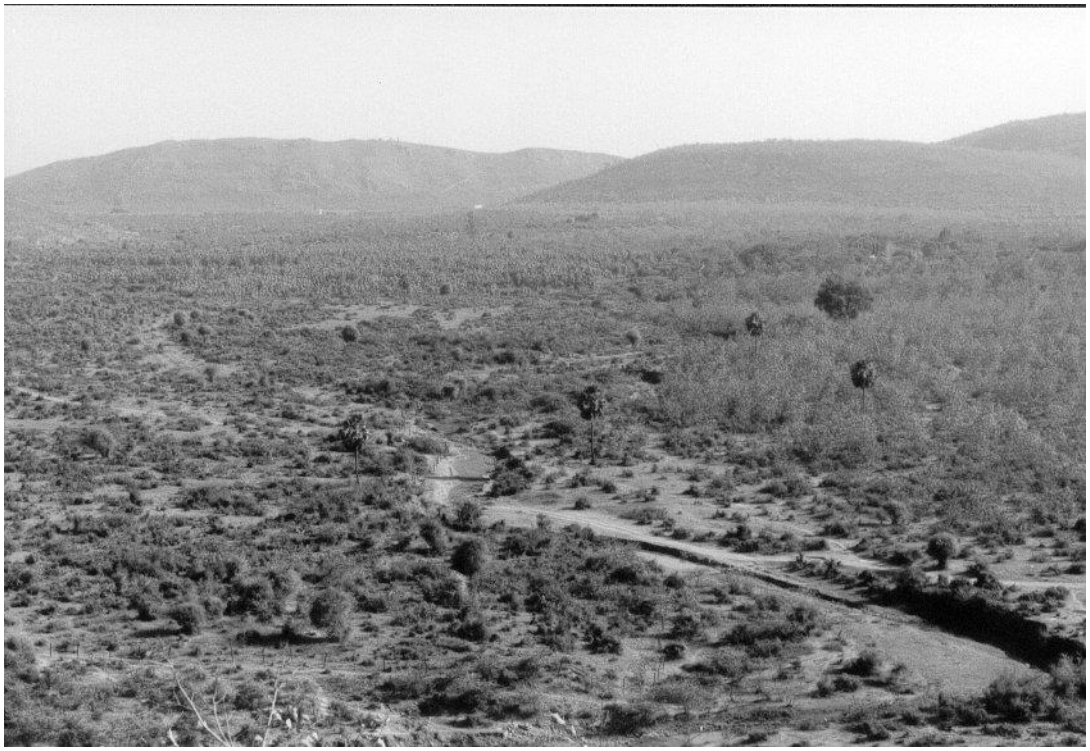


Fig. 2: The valley looking south towards Soṇagiri

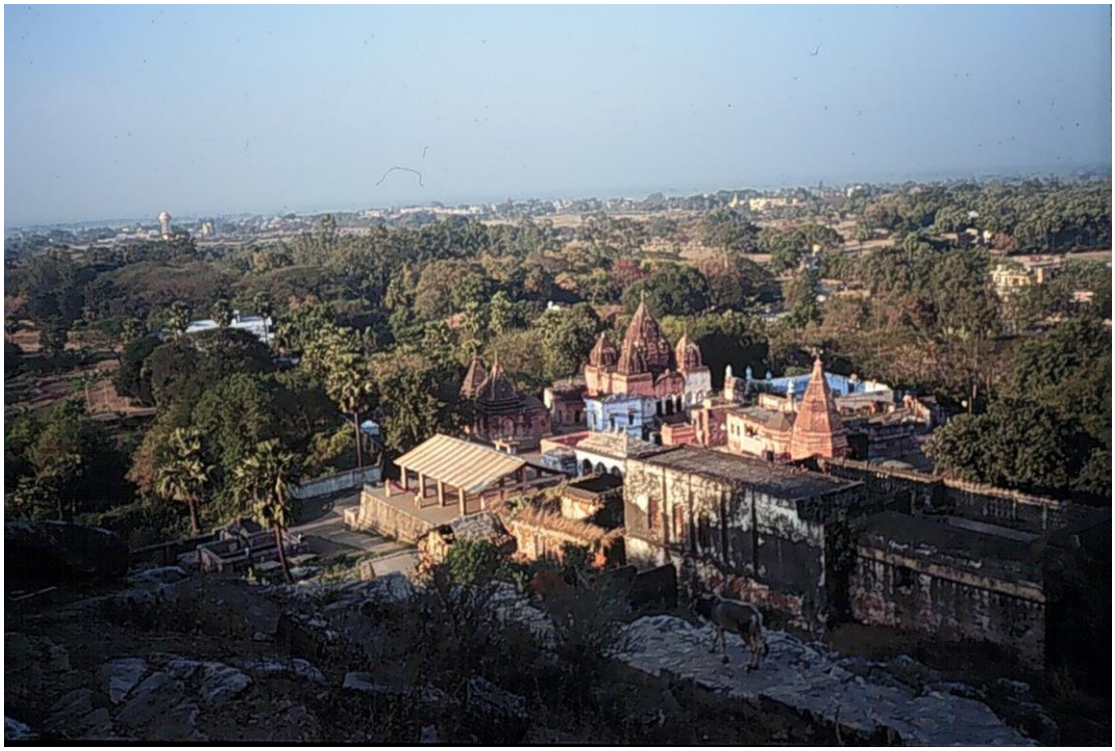


Fig. 3: The Lakshmi-Narayan Temple at the kuṇḍs, looking northeast towards town.



Fig 4: New Rajgir (taken by R. Knox, Department of Oriental Antiquities, British Museum,

used with permission



Fig. 5: A portrait of Xuanzang: from the X stele at the *Xingjiao Si* Temple in Sian Shangxi Province (Huntington Archive Image Scan # C9062)



Fig. 6: Son-Bhāndār Cave



Fig. 7: Pippala Stone House (from Kuraishi and Ghosh 1958, Plate II).

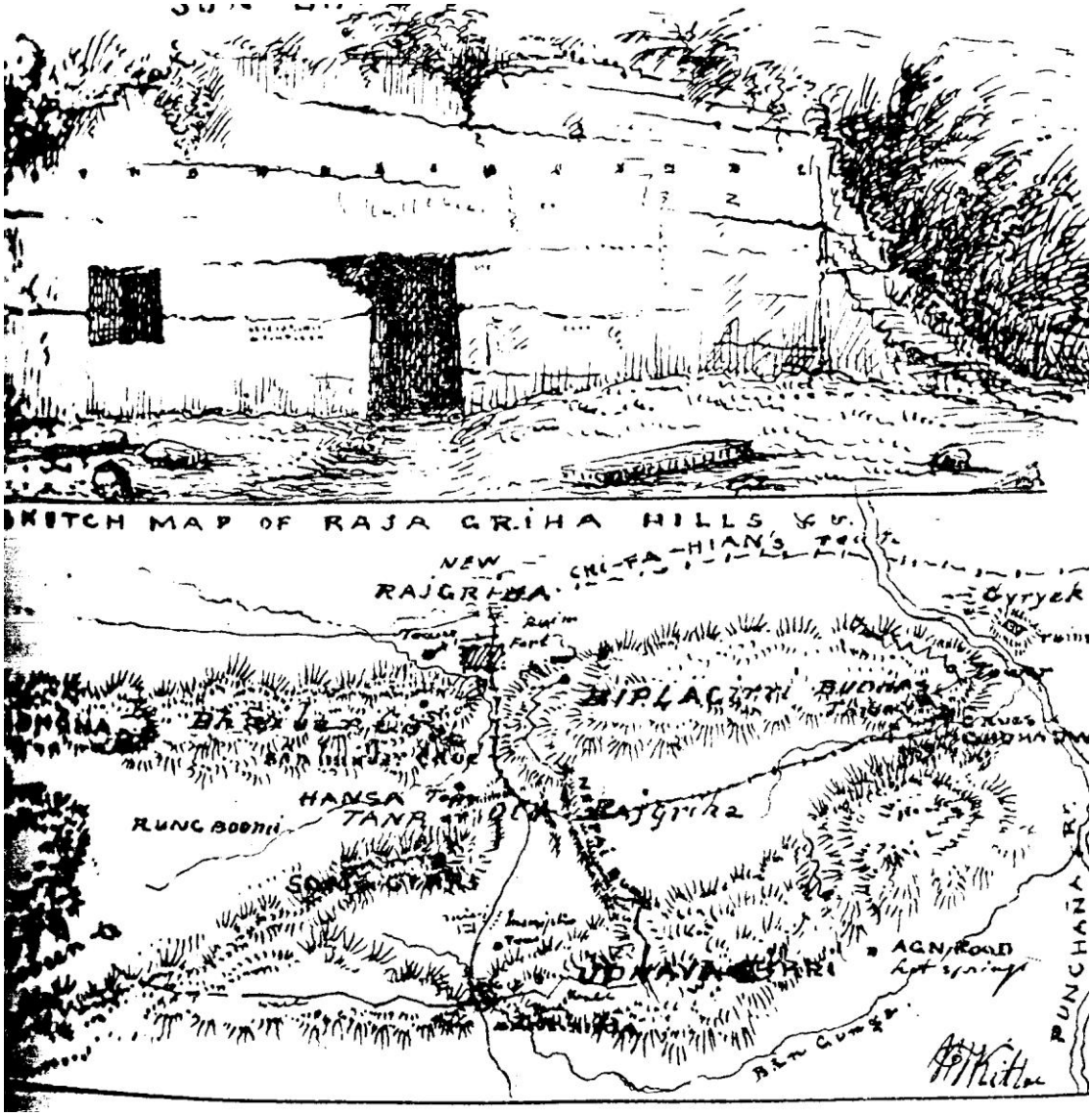


Fig. 8: The Cave as drawn by Kittoe and his map of Rajgir (1847, Plate 42).



Fig. 9: One of the temples on Vaibhāragiri showing the re-use of an older pillar.



Fig. 10: The “Mahāvīra Stūpa”



Fig. 11: The Kalanda Tank identified by Marshall as it looks today

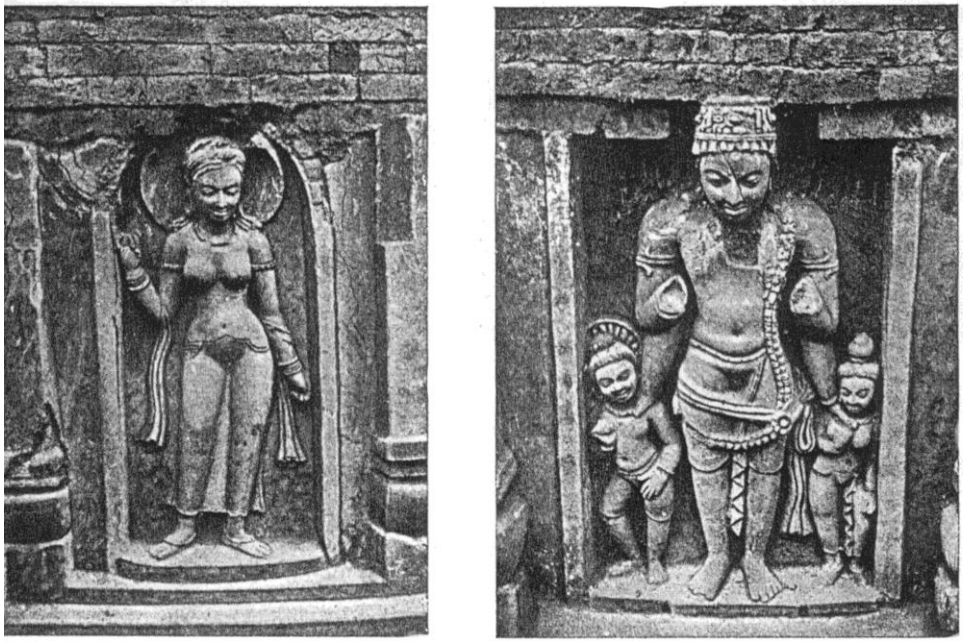
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Fig. 12: Maṇiyār Maṭh



A. *Stucco images on the central shrine at Maniyar Math*



B C

B and C. *Closer view of two stucco images*

Fig. 13: Maṇiyār Maṭh stuccoes (from Kuraishi 1958, Plate IV)

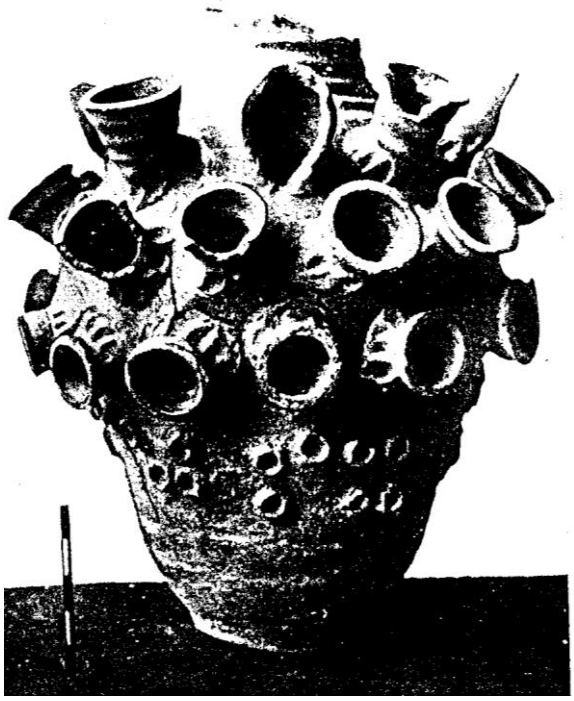


Fig. 14: Spouted jar similar to those used in Bengali snake cult; found at Maṇiyār Maṭh



Fig. 15: Bimbisāra's Jail; a close-up of one of the bastions and the view towards Gçdhakūña

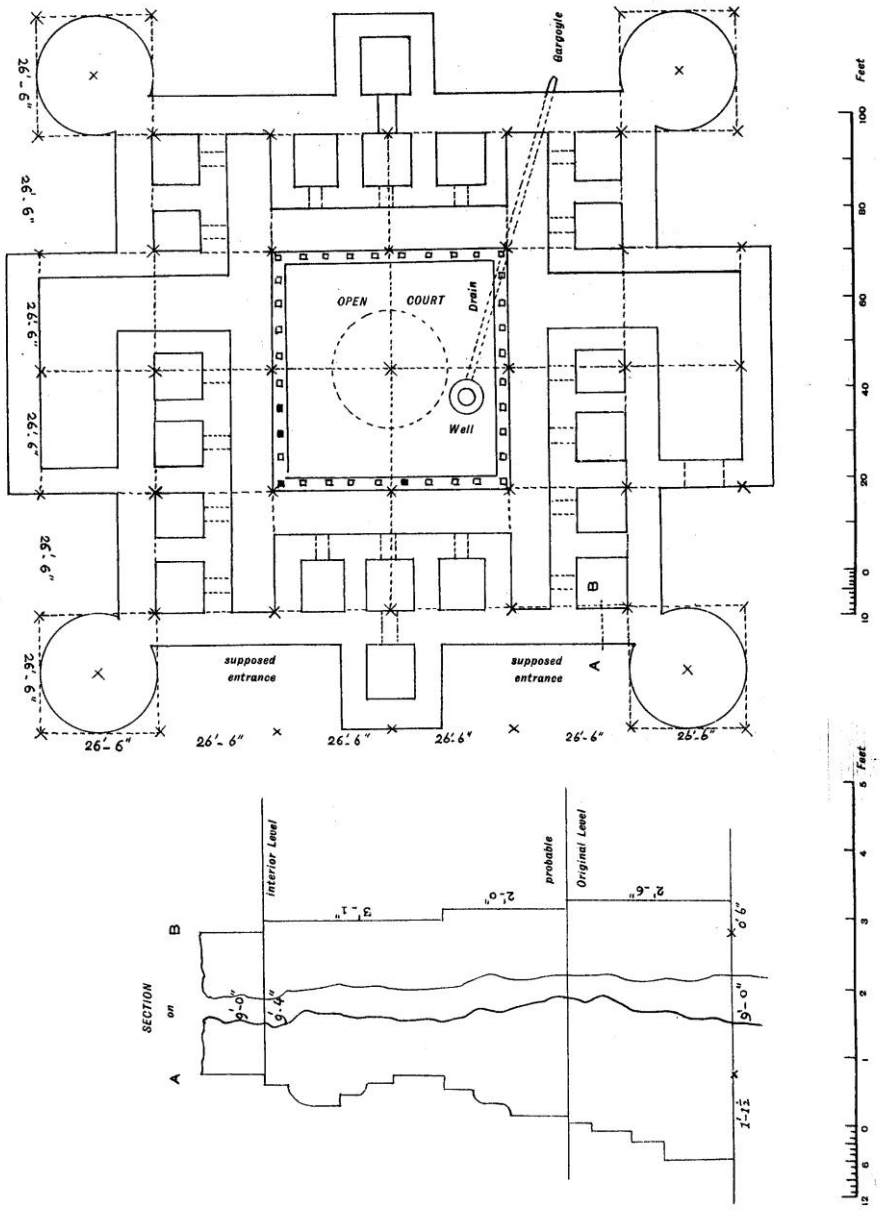


Fig. 16: The Mahābodhi Monastery (from Cunningham 1892)



Fig. 17: Pāla image of Mahāvīra from the medieval Jaina Temple on Vaibhāra



Fig. 18: The Jīvakāmrāvana: view of one of the elliptical halls



Fig. 19: Bimbisāra’s Chariot Tracks



Fig. 20: Śaṅkhalipi inscription near the “chariot tracks”



Fig. 21: View of the “Aśokan” stūpa to the west of the New Rajgir embankment

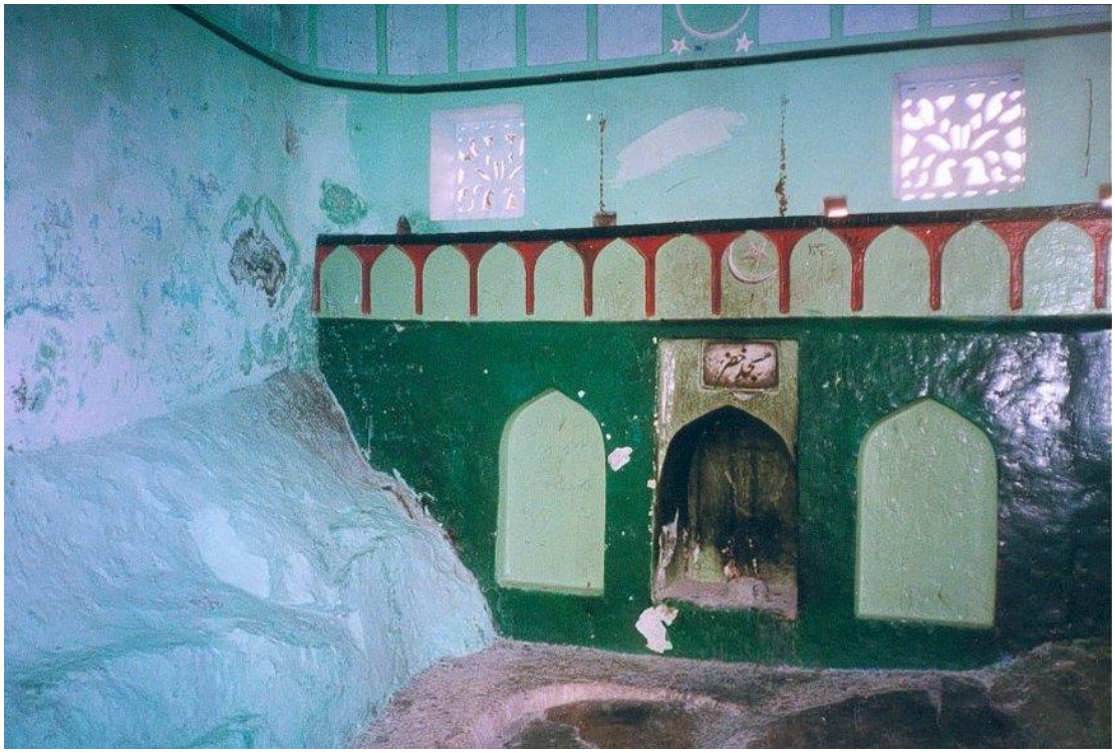


Fig. 22: The black stone now associated with the shrine of Sharafuddin Maneri

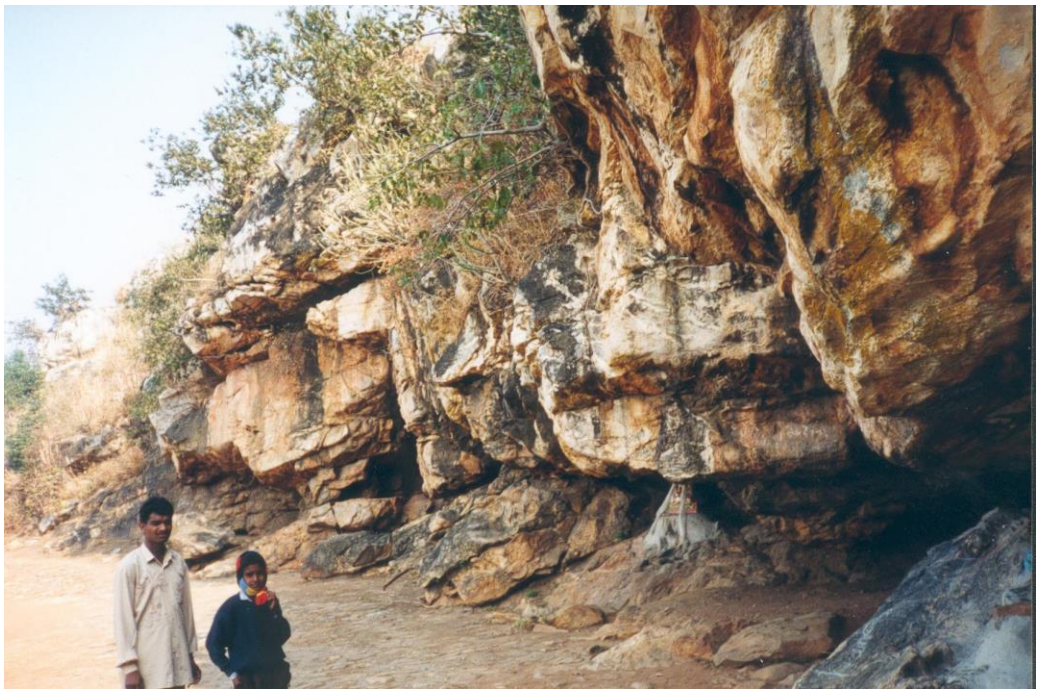


Fig 23: The Saptaparṇī Cave



Fig. 24: The Saptaparṇī Cave as seen from the plain to the north of Vaibhāra



Fig. 25: The modern Japanese Veṇuvana Temple at Rajgir



Fig. 26: A Japanese impression of Gçdhakūña: part of a 1691 wood-block print copy of the Taima Mandala tapestry, woven near Nara, Japan in the mid-eighth century



Fig. 27: The section of the Outer Fortification adjacent to the southern pass.



Fig. 28: The Ganesh Temple that now stands on the western edge of Vipula, above a former Buddhist caityagṛha



Fig. 29: Part of the Outer Fortification on Ratnagiri



Fig. 30: A view of the Outer Fortification along Udayagiri towards Giriak



Fig. 31: View from the stūpa on Udayagiri towards Gṛdhakūṭa

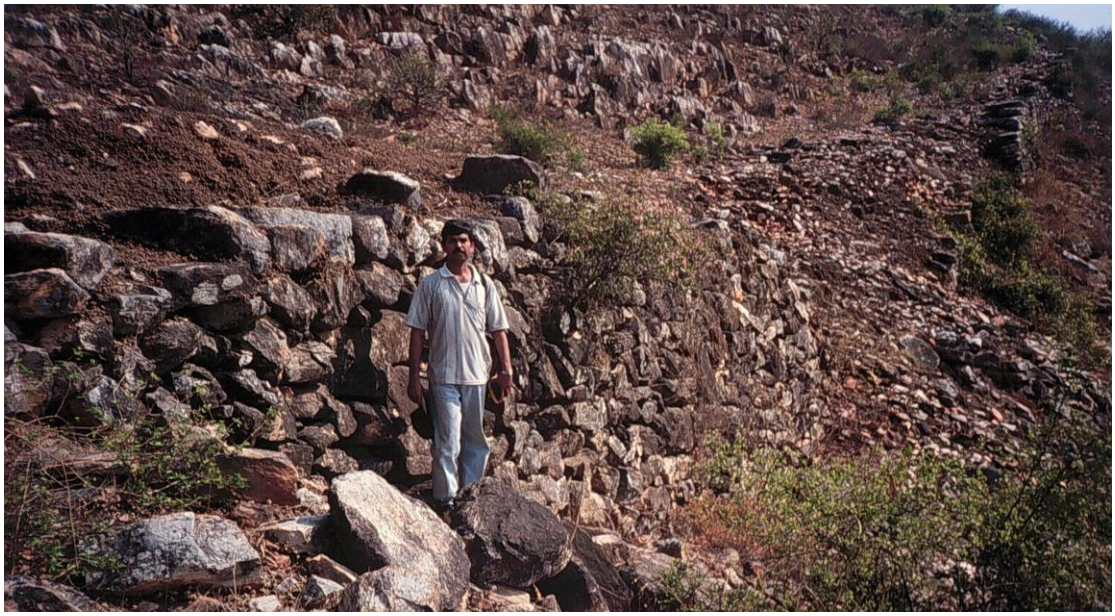


Fig. 32: Part of the Outer Fortification crossing a defile on the way to Madhuban and Giriak



Fig. 33: A section of wall from the northern pass.



Fig. 34: Jāradevī Mound

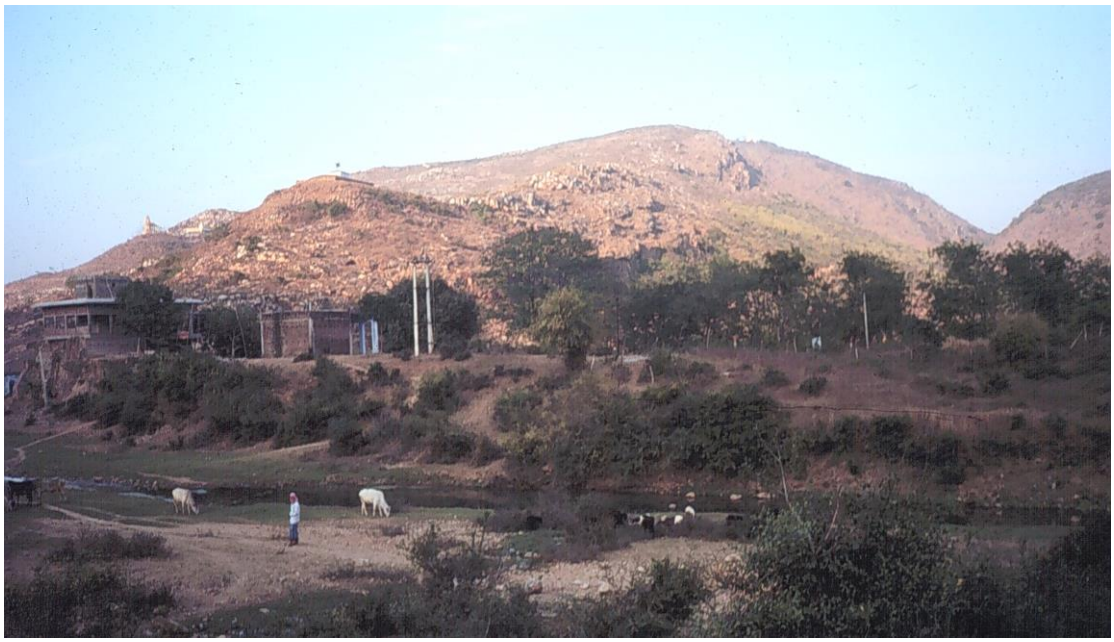


Fig. 35: Jāradevī Mound looking east with Vipula in the background. The Ganesh temple is on the left-hand side, the Mahāvīra stūpa on the far left.



Fig. 36: Jāradevī Mound



Fig. 37: Part of the Jāradevī Mound indicating a stratigraphy

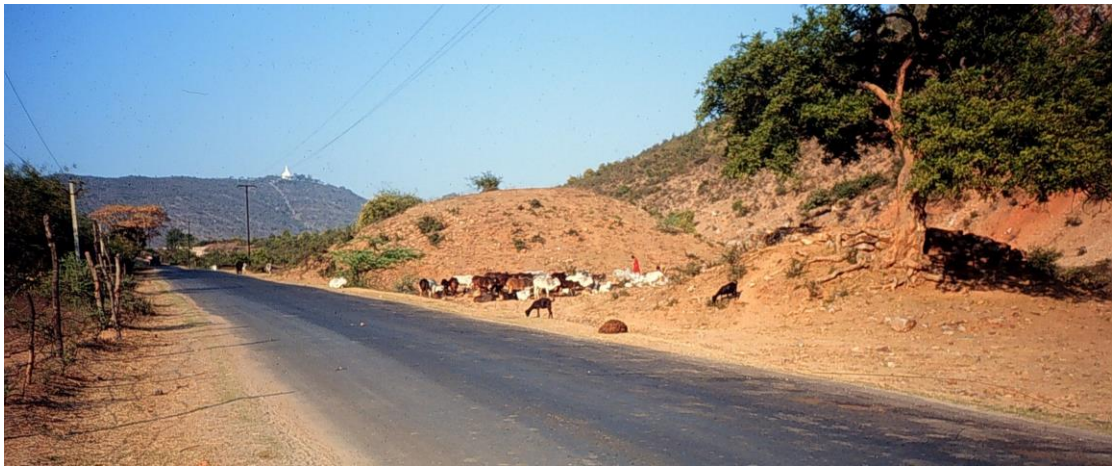


Fig. 38: Two stūpas on the eastern side of the road on the way to the Bangāṅga Pass



Fig. 39: The Inner Fortification’s northern wall, as seen from the west



Fig. 40: The northern embankment as seen from the north



Fig. 41: View of New Rajgir gate (R. Knox), taken in the early ‘70s



Fig. 42: Another view of the stone wall (R. Knox)



Fig. 43: The southern embankment of the New Rajgir citadel, looking eastwards towards the modern Burmese Buddhist Temple.



Fig. 44: Section of brickwork at the western gate of New Rajgir



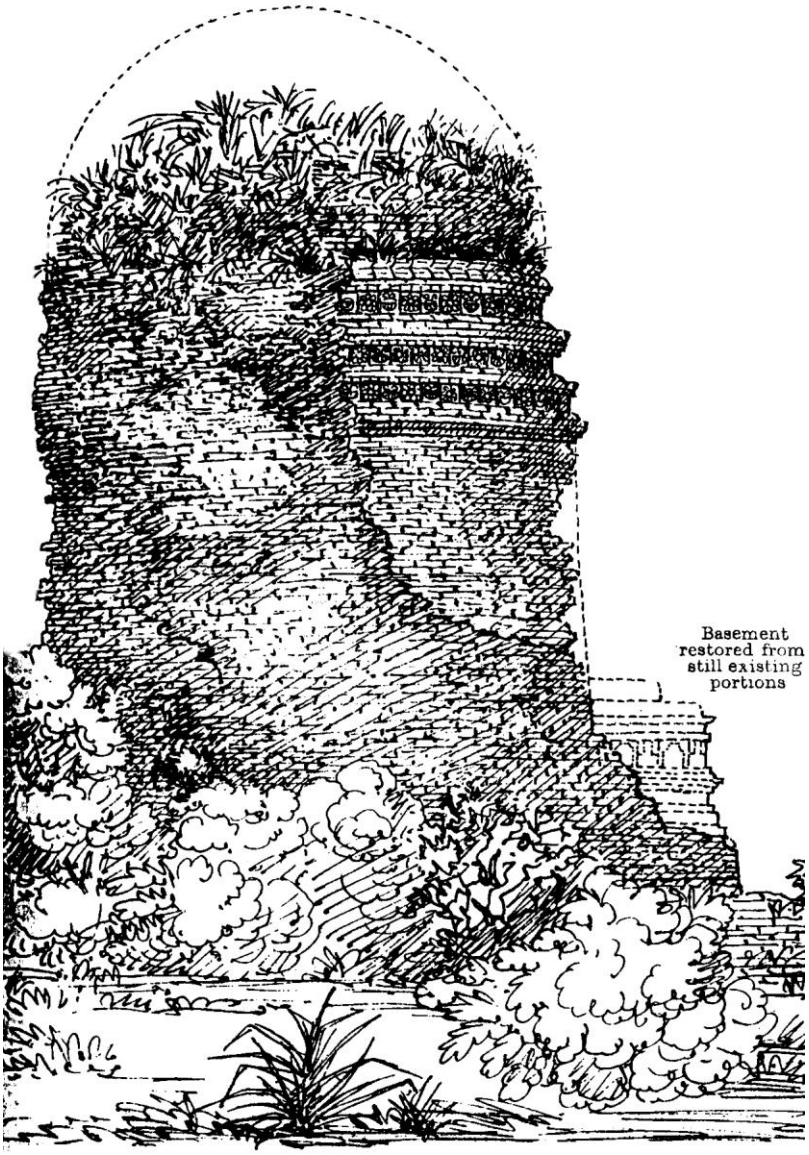
Fig. 45: The Giriak section of the Outer Fortification



Fig. 46: The stūpa and vihāra as seen from the modern town across the river to the east of the hill



Fig. 47:The lower part of the Wild Goose Stūpa



JARASANDHA-KA-BAITHAK

from the South

Fig. 48: Cunningham's drawing of the Giriak stūpa (1871)

Fig. 49: The Dāktar English Mound, looking east from the hill



Fig. 50: One of the ring-wells at Giriak, at the base on the river side of the mound



Fig. 51: Bricks along the river edge at Giriak



Fig. 52: Sītamuri



Fig. 53: The temple mound at Devangarh



Fig. 54: Coarse Wares from Jāradevī Mound

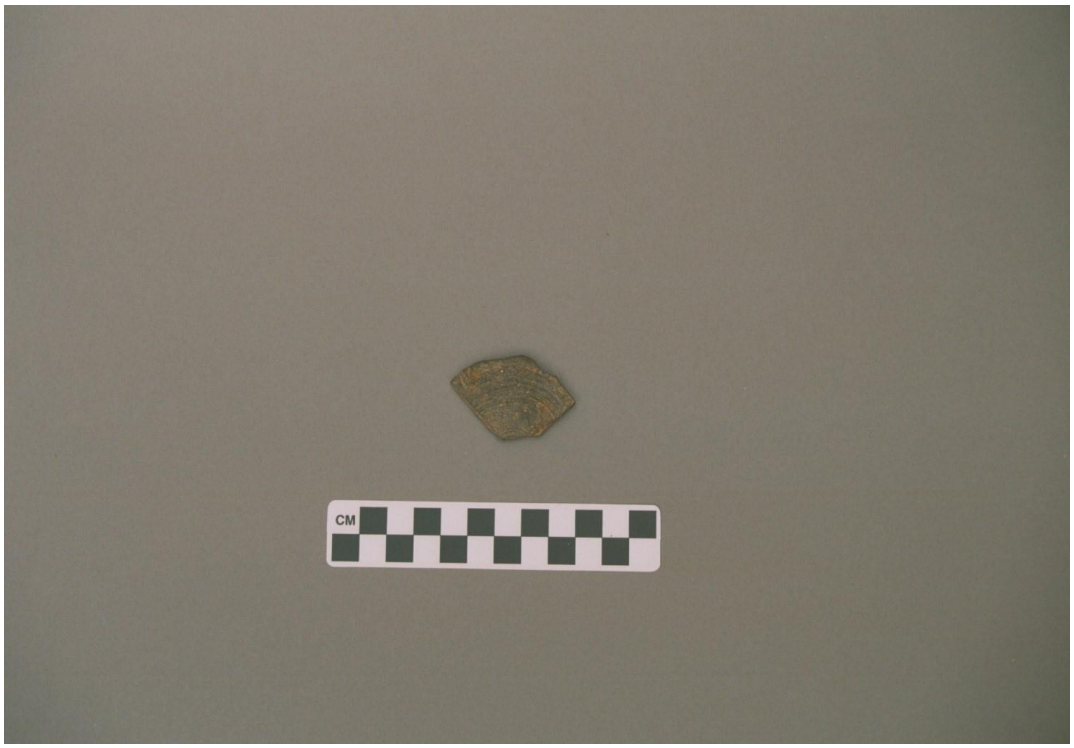


Fig. 55: Grey Ware Base, Jāradevī Mound



Fig. 56: Two khatti and one terracotta ball, Jāradevī Mound



Fig. 57: Nāga Figurine of the Śuïga period, Jāradevī Mound

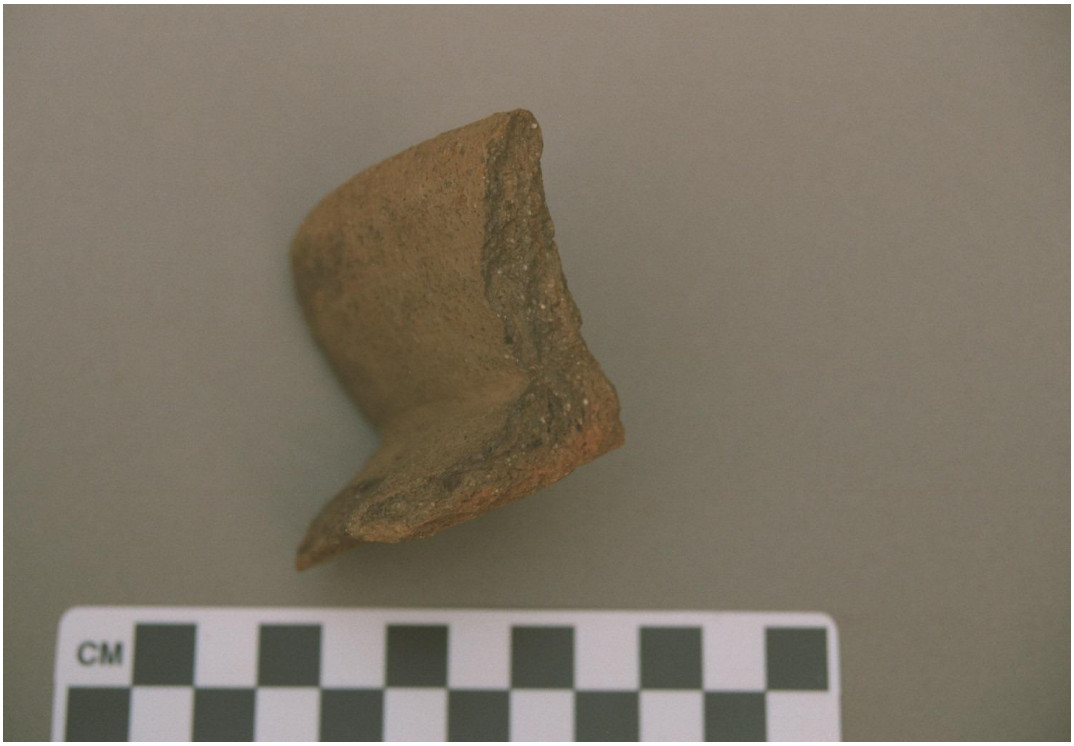


Fig. 58: Coarse ware, Jāradevī Mound



Fig. 59: Coarse ware, Jāradevī Mound



Fig. 60: Samples 1-3 (Mound 2 and Ratna Road area)



Fig. 61: Some of the finds from Mound 2



Fig. 62: Nail-headed rim bowls (Pre-Iron Age 1) from Mound 2



Fig. 63: NBP-Period Bowls from Mound 2



Fig. 64: Finds from the Ratna Road area



Fig. 65: Animal figurine from Ratna Road area



Fig. 66: Coarse ware, Ratna Road



Fig. 67: Coarse ware, Ratna Road area



Fig. 68: Selection from Ratna Road area



Fig. 69: More sherds from Ratna Road area



Fig. 70: Selection of sherds from the New Rajgir embankment



Fig. 71: Black-Slipped Ware, New Rajgir



Fig. 72: Wavy sherd, from southern side of “West Gate”, New Rajgir embankment



Fig. 73: Finds from the Dāktar English mound, Giriak



Fig. 74: Grey Ware, Dāktar English mound, Giriak



Fig. 75: Kuṣāṇa-Period Spouts, Dāktar English mound, Giriak



Fig. 76: Chalcolithic coarse ware, Devangarh



Fig. 77: Piece of iron slag from Devangarh

SELECTED THIN-SECTION SLIDES

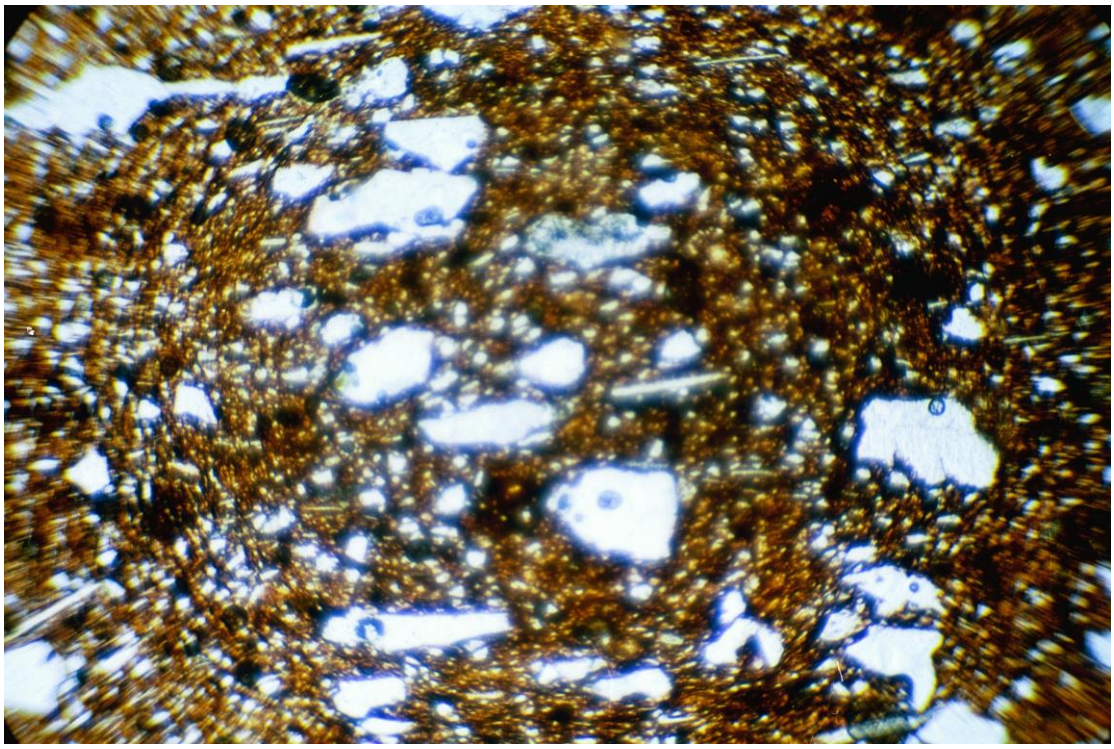


Fig. 78: Slide 1 at 5x magnification

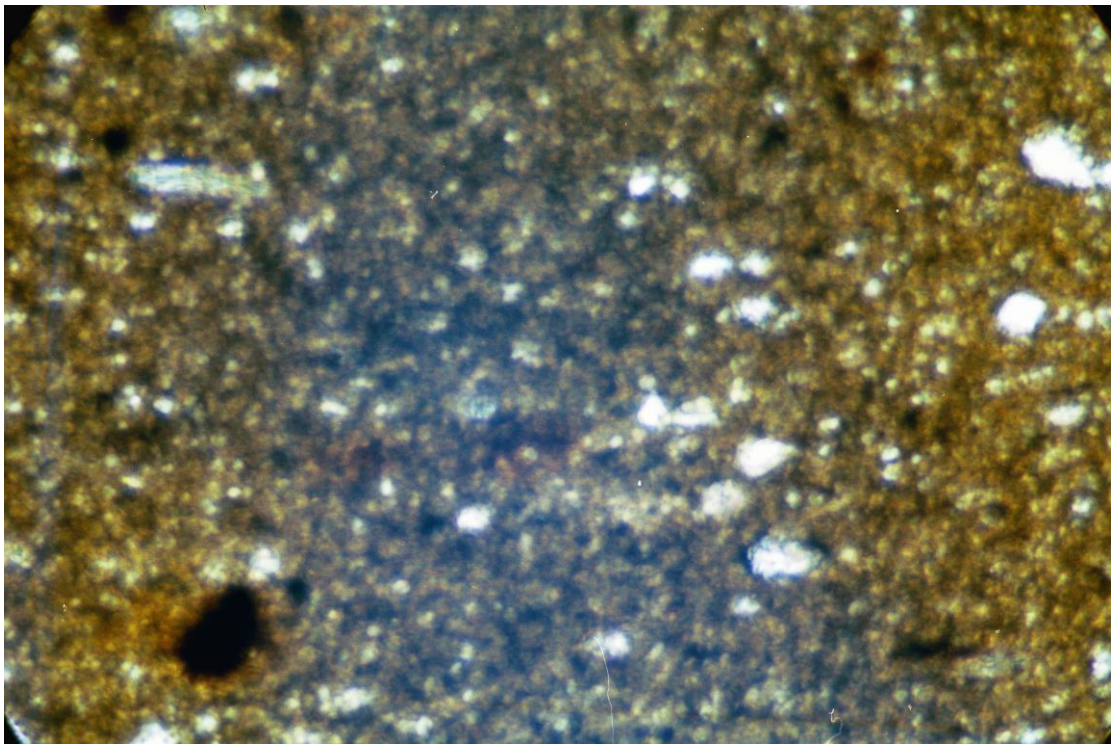


Fig 79: Slide 3 at 5x magnification

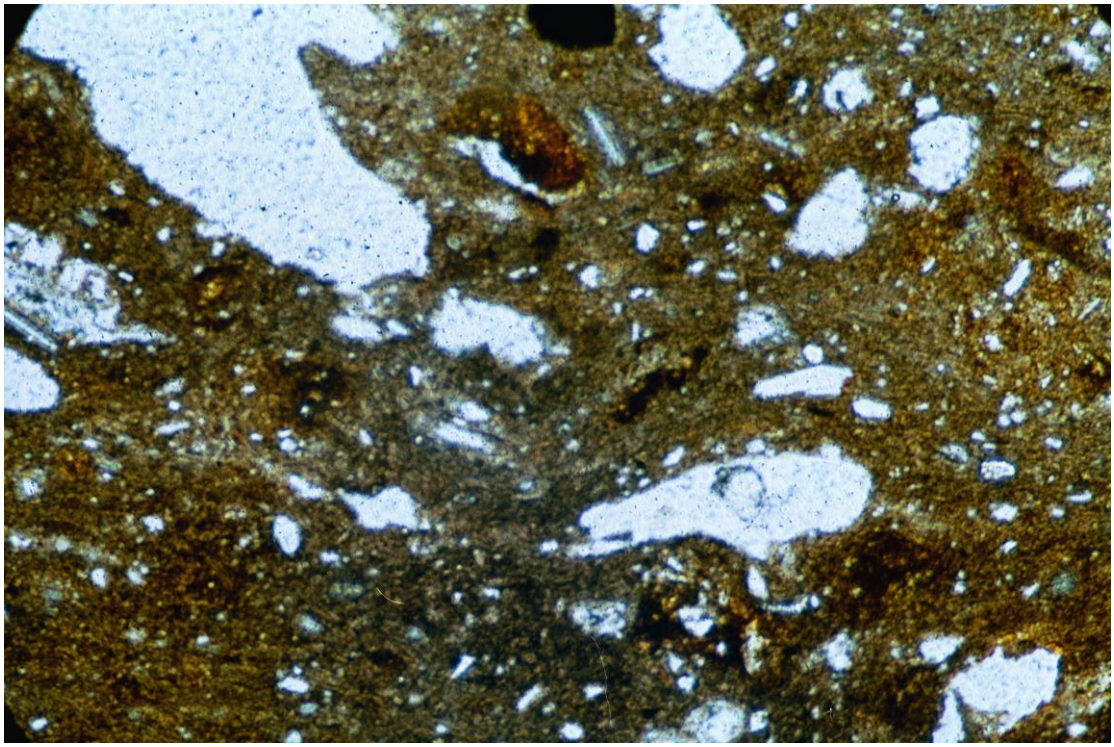


Fig. 80: Slide 4 at 5x magnification

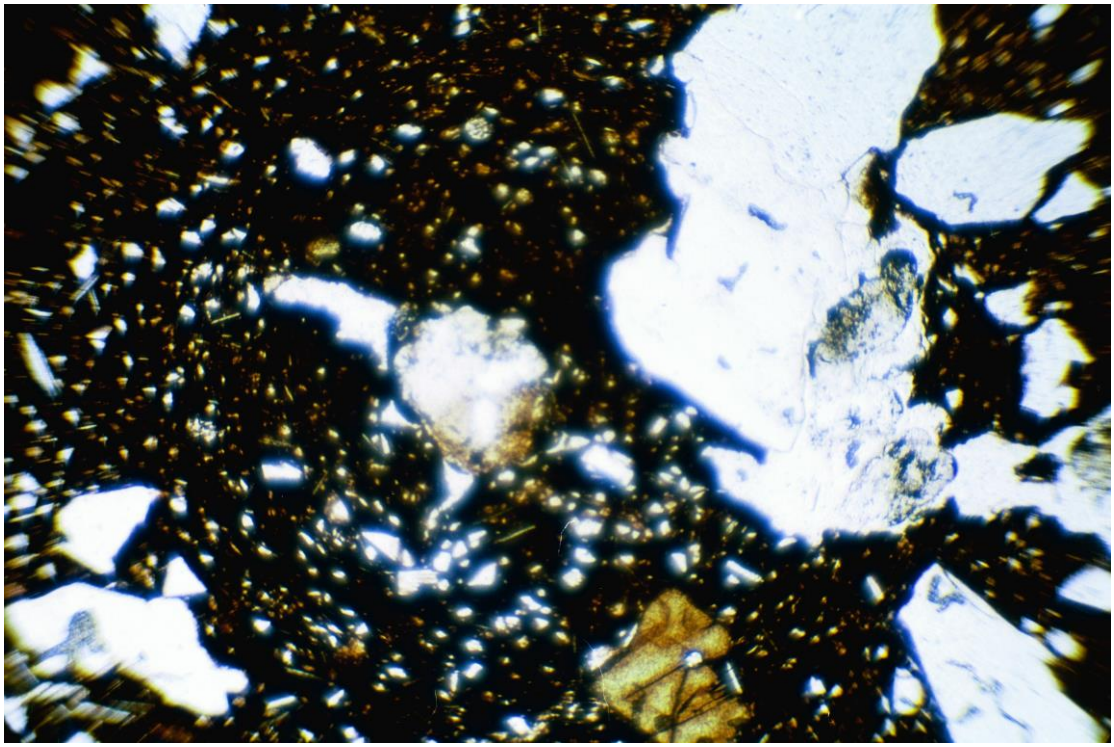


Fig. 81: Slide 5 at 10x magnification

NBP ANALYSES

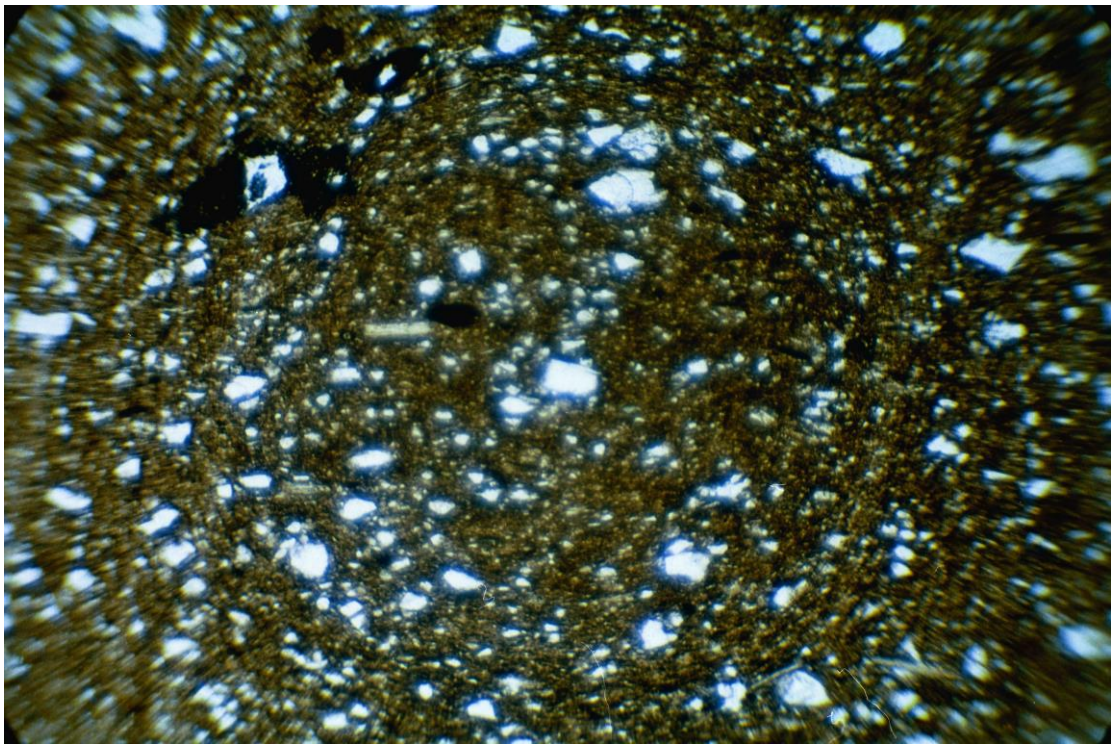


Fig. 82: Slide 6 at 5x magnification

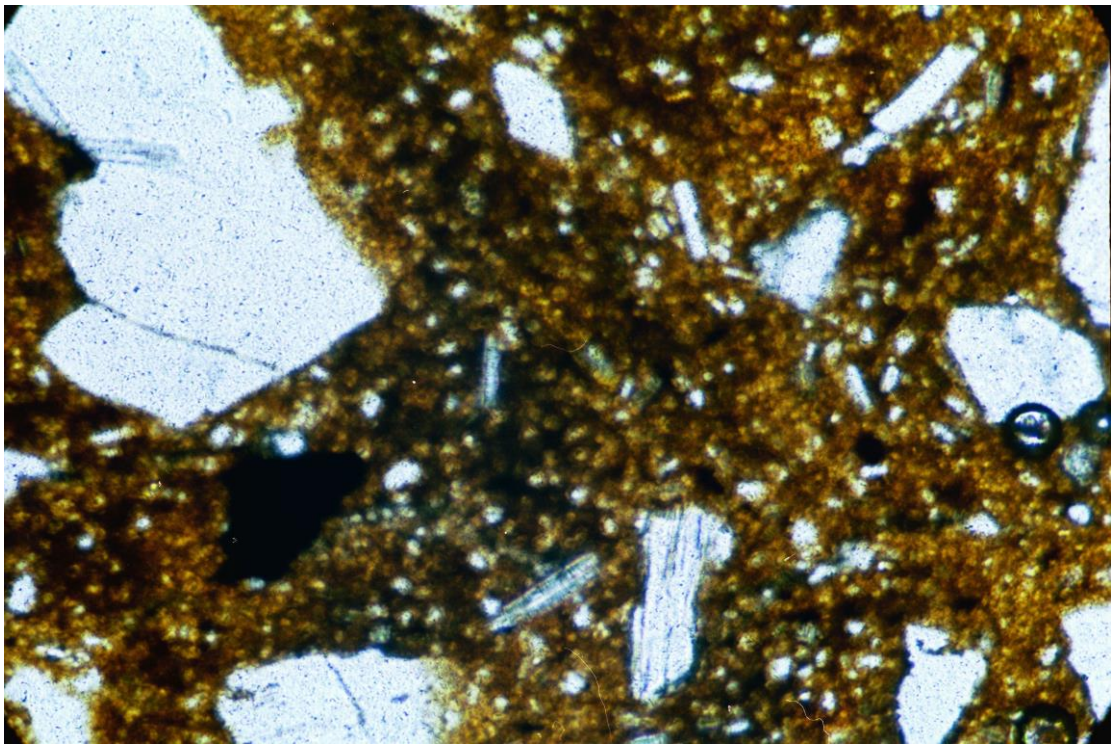


Fig. 83: Slide 8 at 5x magnification

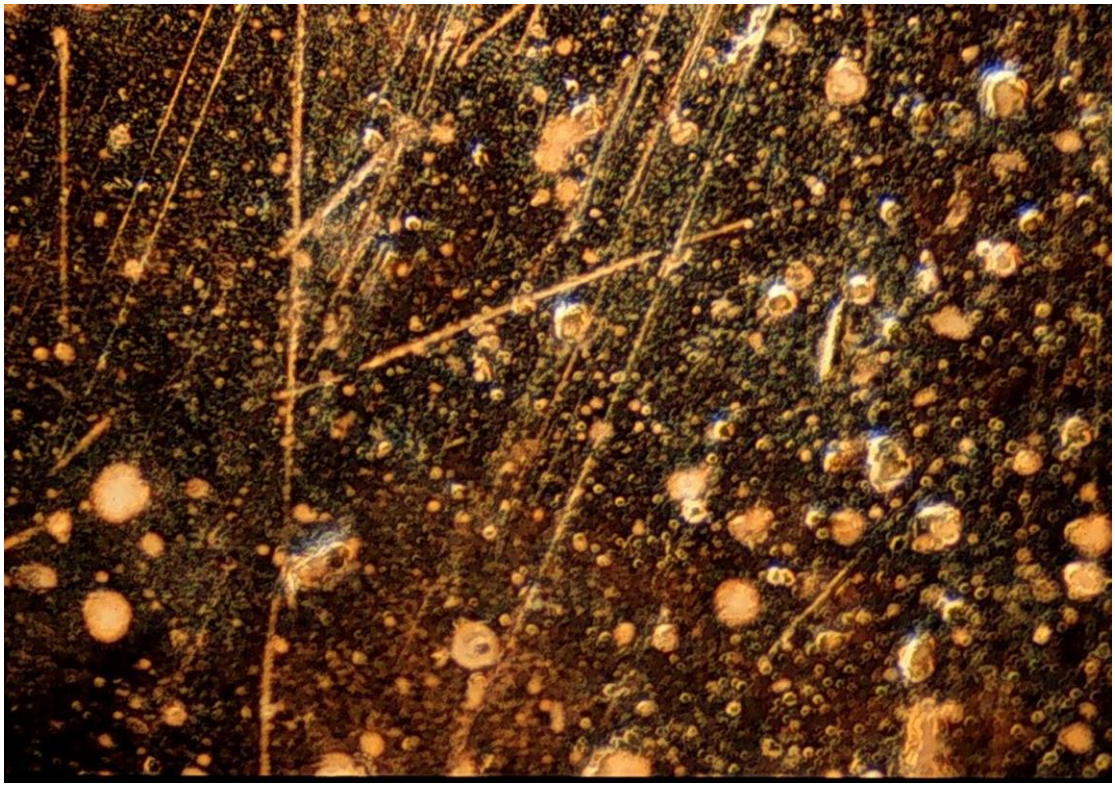


Fig. 84: Steel-blue NBP (Sample 2) at 10x magnification

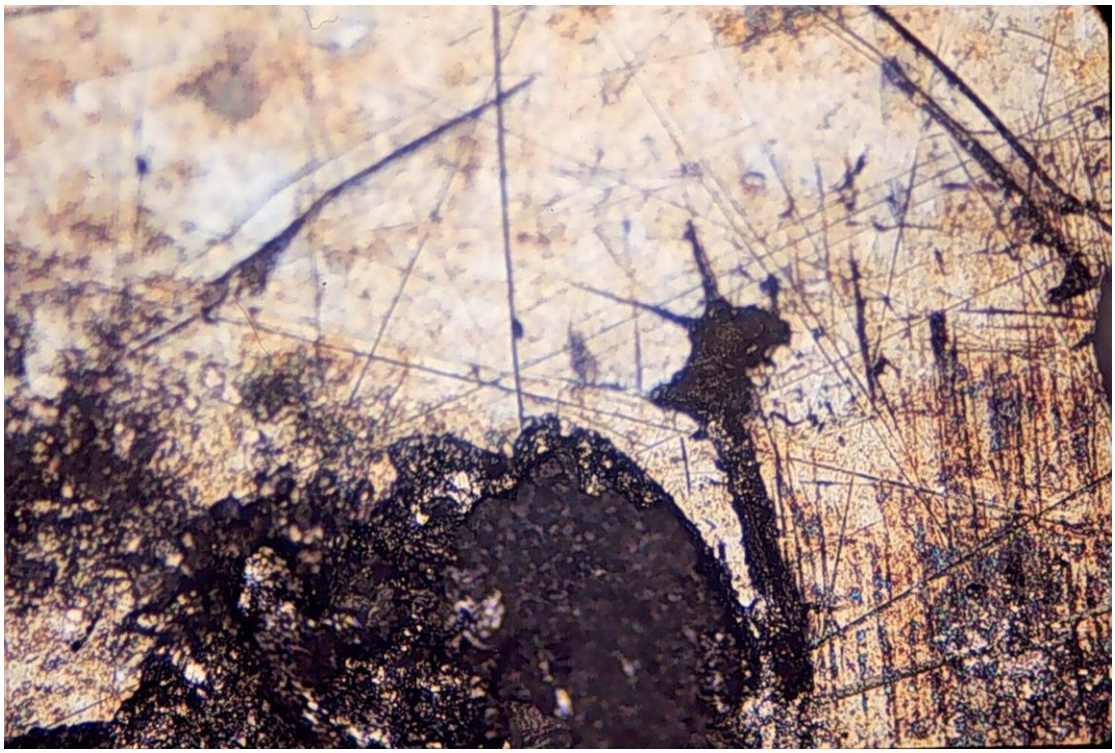


Fig. 85: Bichrome NBP (Sample 1), silver side, at 10x magnification

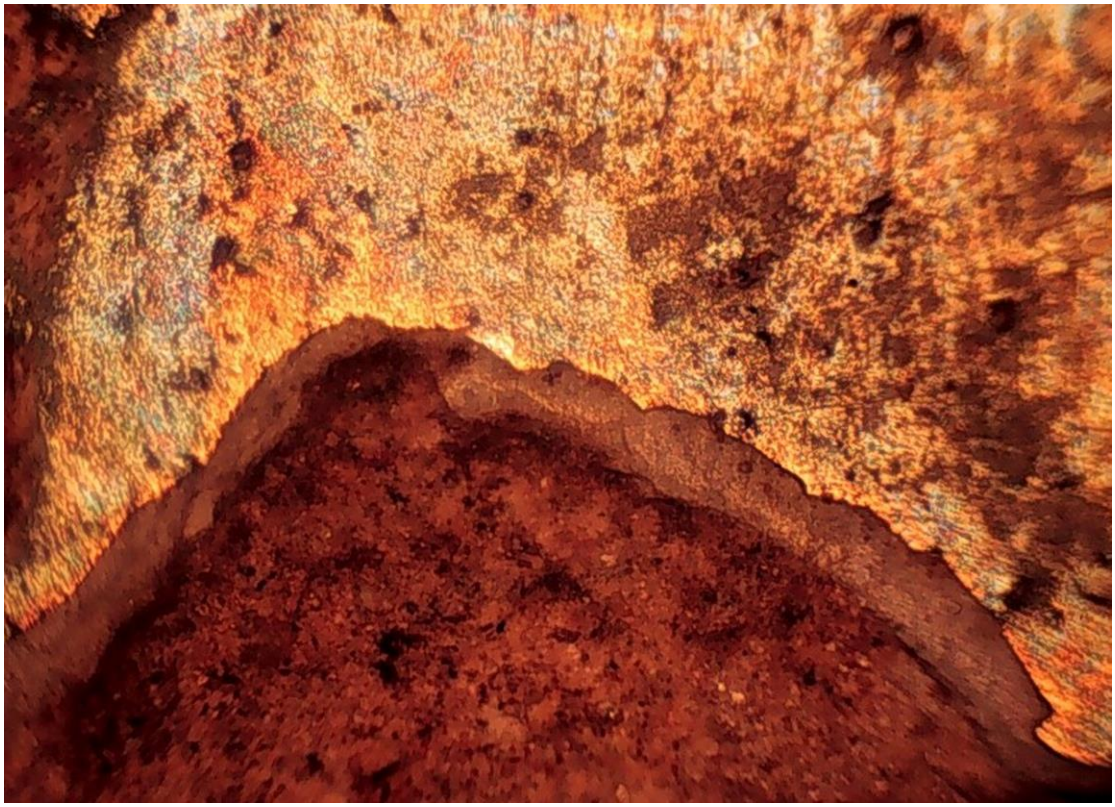


Fig. 86: Sample 2 at 5x magnification

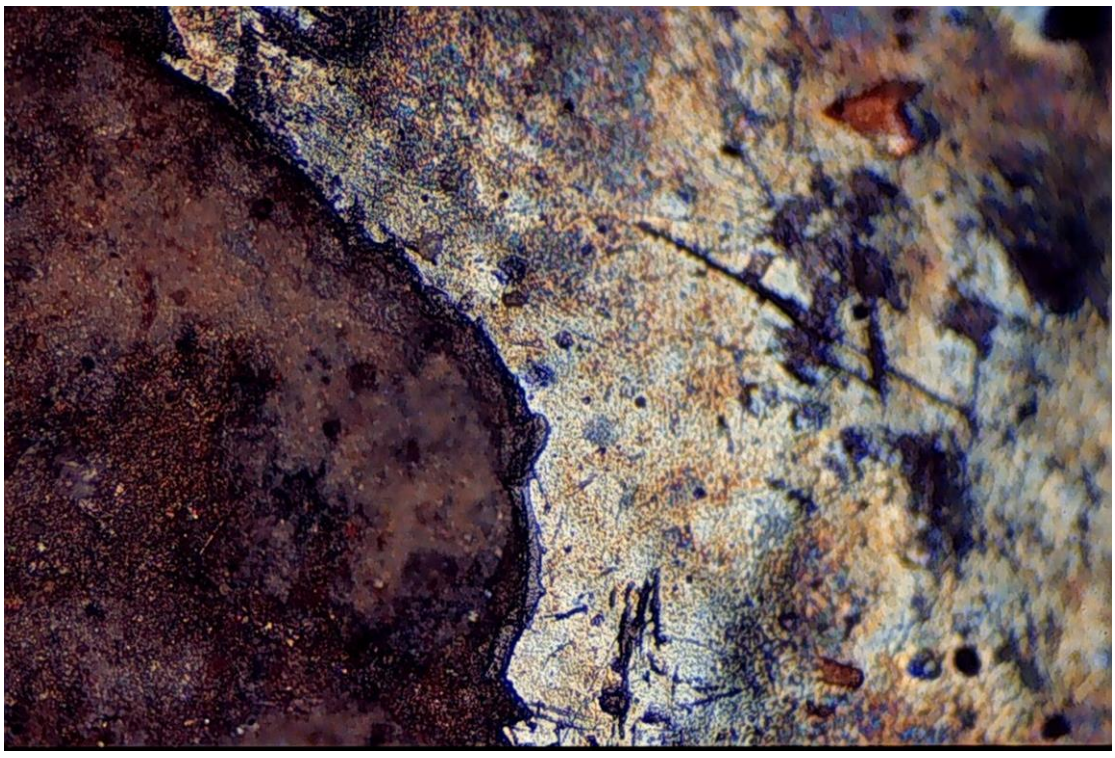


Fig. 87: NBP from Giriak at 10x magnification



Fig. 88: Bronze NBP (Sample 3) at 5x magnification



Fig. 89: Black-Slipped Ware from the Inner Fortification at 5x magnification

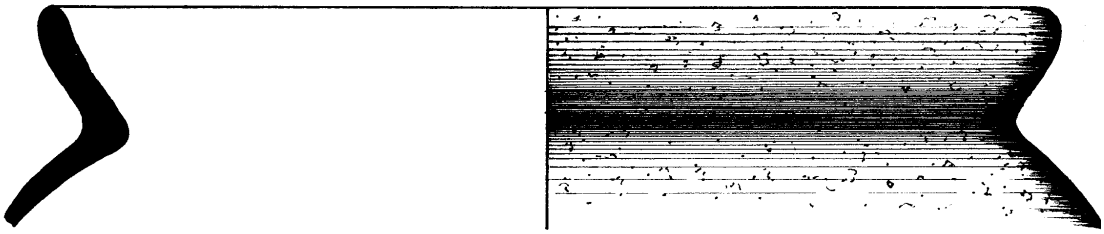


Fig. 90: Coarse ware sherd from Jāradevī Mound (Fig. 54[1], bottom right). Scale 1:2

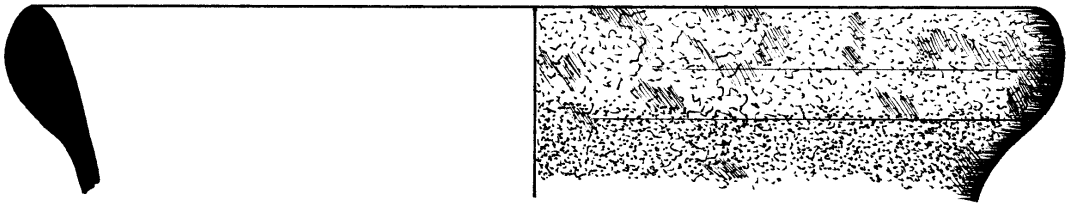


Fig. 91: Top of ring-well fragment from Jāradevī Mound, (Fig. 54, bottom left). Scale 1:3

[1] Refers to the photography of the sherd.

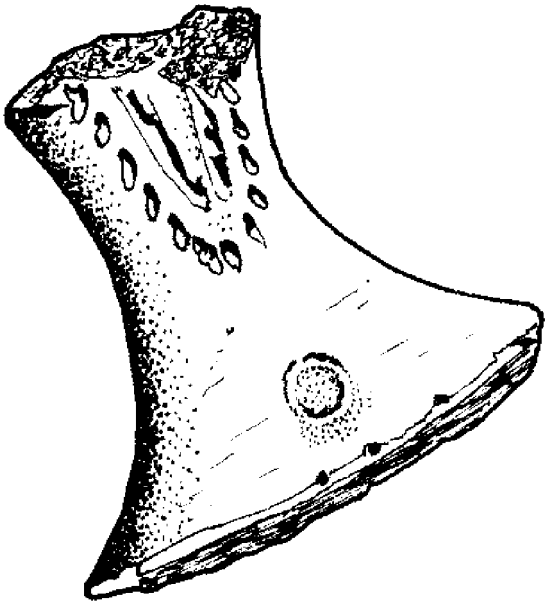


Fig. 92: Drawing of Naga Figurine from the Jāradevī Mound (Fig. 57). Scale 1.5:1

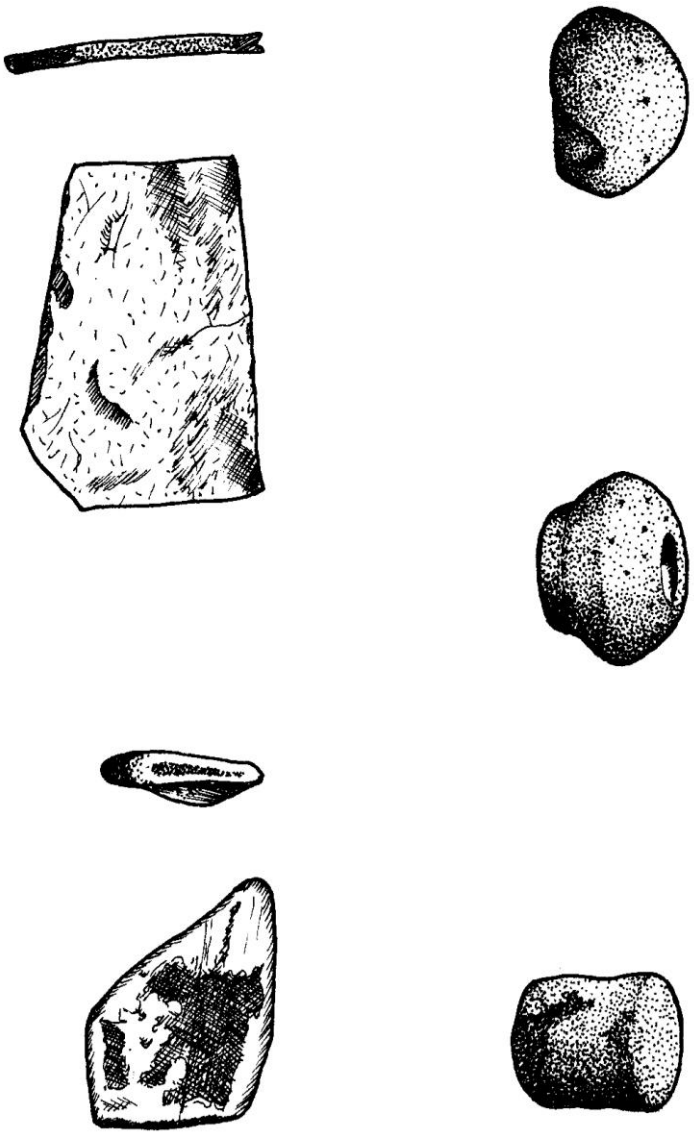


Fig. 93: Drawings of Ratna Road finds shown in Fig. 64. Scale 1:1

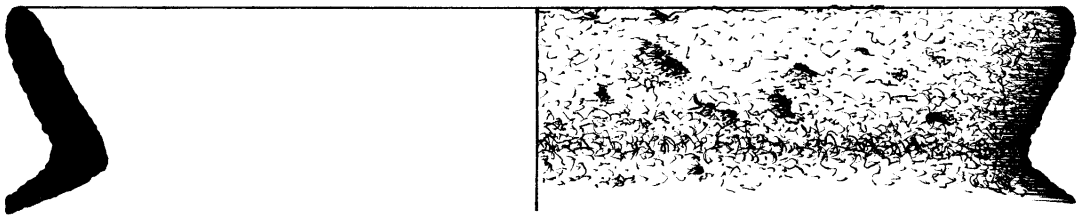


Fig. 94: Coarse ware sherd (Fig. 68E). Scale 1:2

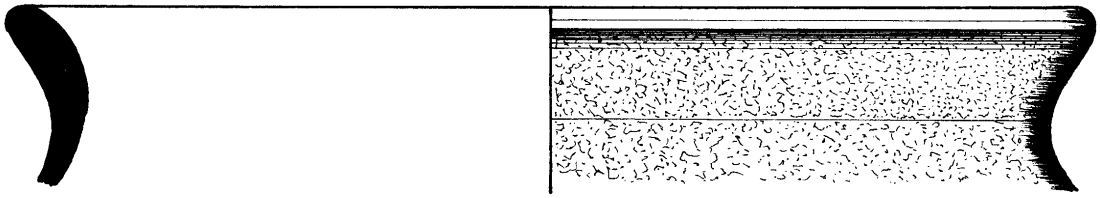


Fig. 95: Red Ware sherd from Ratna Road (Fig. 68C). Scale 1:1

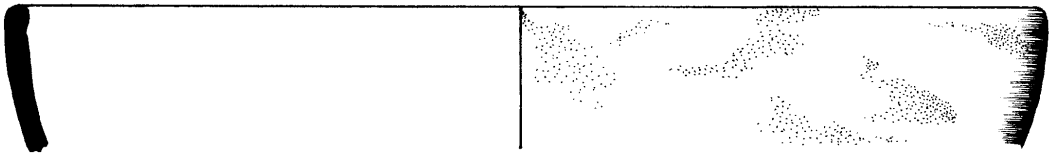


Fig. 96: Drawing of decayed NBP sherd from Ratna Road (Fig. 69D). Scale 1:2

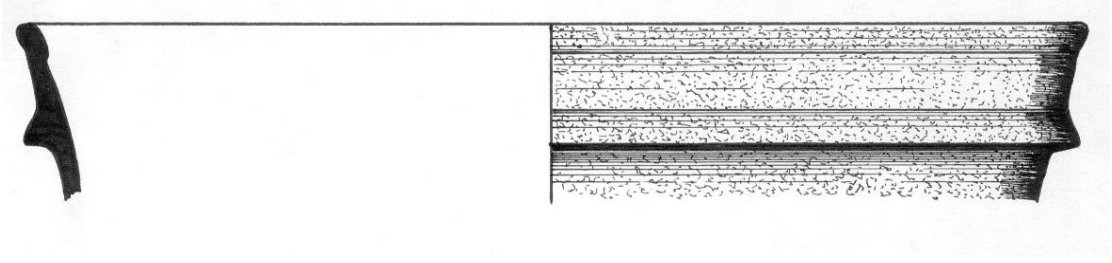


Fig. 97: Drawing of BSW sherd from Ratna Road (Fig. 69A). Scale 2:3

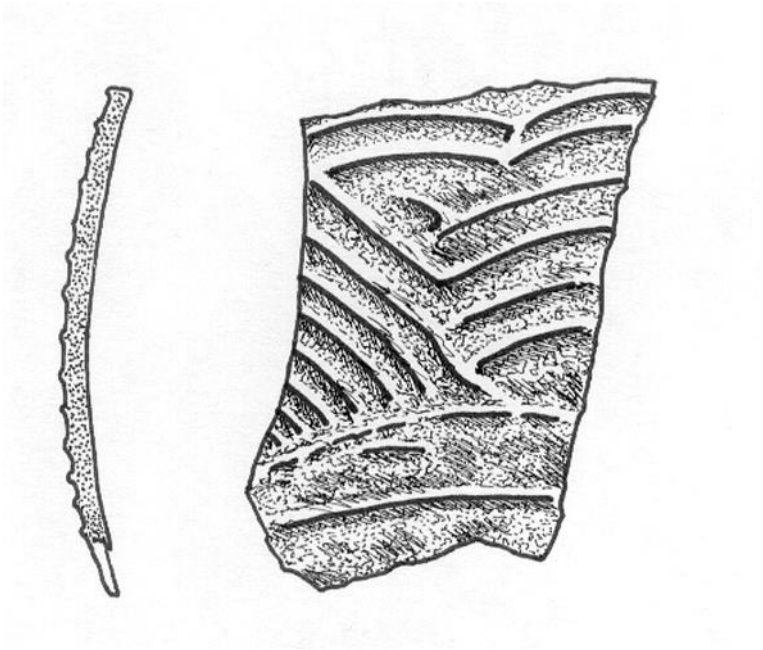


Fig 98: Drawing of sherd found at West Gate of New Rajgir (Fig. 72). Scale 2:3

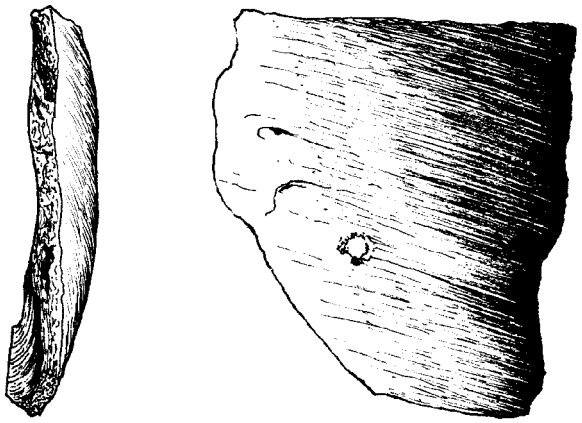


Fig. 99: Drawing of Fig. 70A, from the New Rajgir embankment. Scale 1:1

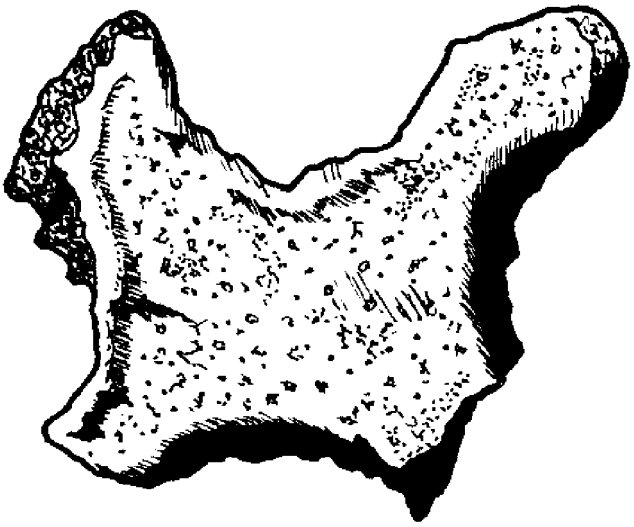


Fig 100: Chalcolithic coarse ware from Devangarh
(right-hand side, Fig. 76). Scale 2:3

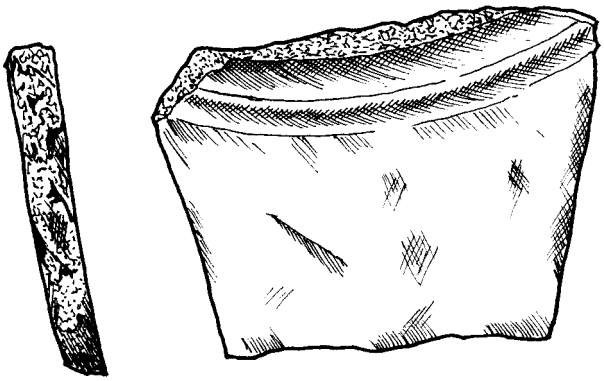
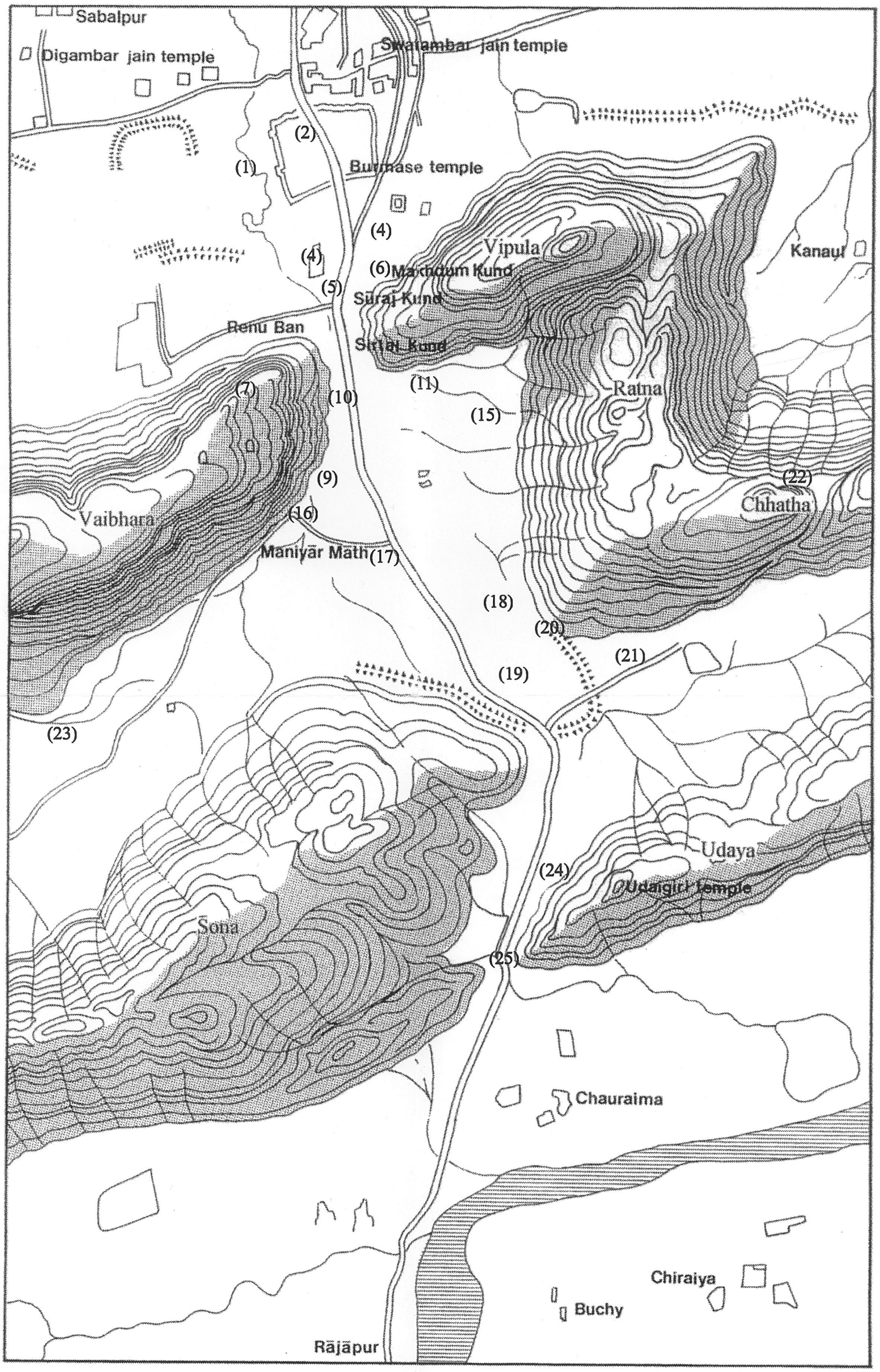


Fig. 101: Base of “Kushan Period” Red Ware dish from Devangarh.


Sabalpur
Digambar jain temple
Swatambar jain temple
(2)
(1)
Burmase temple
(4)
(4)
Vipula
Kanauj
(6)
Mankuum Kund
(5)
Suraj Kund
Benu Ban
Sirtaj Kund
(11)
(7)
(10)
Ratna
(15)
(9)
(22)
Chhatha
Vaibhara
(16)
Maniyar Math
(17)
(18)
(20)
(21)
(19)
(23)
Udaya
(24)
Udaigiri temple
Sona
(25)
Chauraima
Chiraiya
Buchy
Rājāpur
0
3 km