THE PALAEOGRAPHY OF BRĀHMĪ SCRIP

IN NORTH INDIA

(From c. 236 B.C. to c. 200. A.D.)

by

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FOREWORD

The period between the end of the Mauryan Empire and the rise of the Guptas covered some five hundred years, during which most of India was fragmented into comparatively small kingdoms, about which our knowledge is very inadequate. The life of much of northern India was from time to time disrupted by the invasions of various foreign peoples—Bactrian Greeks, Śakas, Parthians and Kuṣāṇas—whose inroads must have caused great unhappiness and loss of life for the ordinary people of the regions over which they marched. Nevertheless this period was one of the most important and formative ones in the whole history of India.

During this time the life of India underwent many changes. Buddhism flourished, and left many of its most precious works of art and architecture. The Mahāyāna schools appeared, and began their missionary expansion. In Hinduism the new devotional cults, whose activities are reflected in such texts as the *Śvetāśvatara Upaniṣad* and the *Bhagavad Gītā*, grew and expanded their influence, the great epics were compiled and redacted in something like their present form, and the earlier Dharmaśāstras were written. By the end of the period Hindu religious belief and practice were much as they are at the present day.

This formative period was also one of close contract with the outside would. Trade with the west developed and flourished, and with it came new ideas from beyond the frontier. Contact with the Far East developed, and by the end of the period Indian culture had begun to make an impact on the life of South East Asia. In fact the period, though obscure in many particulars, and though it may have seemed a dark one to those who lived at the time, was one of great cultural development and, in many parts of India, also one of considerable material prosperity.

The art of writing was much developed in this formative age, and it is good that at last a detailed and thorough study of this aspect of the cultural history of the period has been prepared Dr T. P. Verma's monograph, which I am honoured to be able to introduce, minutely studies the many inscriptions of the period He has subjected the evidence to a closer analysis than any earlier palaeographer and has put forward theories on the development of the scripts of the time which will be extremely helpful in the work of future students of the subject. Particularly interesting and important is his attempt to relate the development of the script to social and other factors He does not study palaeography in a vacuum, but places it firmly in its general framework in the general history of the times It is to be hoped that he will continue his studies and soon produce further monographs dealing with other periods in the history of India.

A. L. Basham
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Canberra.

January, 1970

PREFACE

'The Palaeography of Brāhmī Script in North India' is based on my thesis submitted for the degree of Doctor of Philosophy of Banaras Hindu University. Here an attempt has been made to trace the evolution and development of the Brāhmī script in north India from c. 236 B.C., the supposed date of the death of Aśoka, to c. 200 A.D. Considering that this time-span leaves out only the inscriptions of Aśoka, which are definitely earlier, a study of the Brāhmī script during this period should be deemed to be of paramount importance. This is the real 'formative' period of the script when increasingly greater use of writing led to a rapid evolution of the letters and, towards the end of the period, even to the distinction of possible regional styles. Our sources of study, ofcourse, have been the inscriptions engraved on stone, metal pieces, coins and seals, but still, following the old tradition, we have assumed, for the sake of convenience, the general validity of the letter forms evolved or in the process of evolving. A palaeographic study based on such restricted source material has, no doubt, its own limitations. For example, it could perhaps be said that if engraving on stone or metal or terracotta objects or coins—in short, a hard surface—was not the primary use of the script; any generalisation on the basis of such engravings can have only a limited validity. Such suspicion would be genuine, and we will also agree that real palaeographic studies can only be based on paper or similar material. But, apart from the unfortunate circumstances that such sources are simply non-existent for our period, we would like to point out, in defence of the earlier generation of Indian palaeographists and our own choosing to follow in their foot-steps, that much formal difference between the actual writing on paper and engraving on a hard surface need not be imagined; especially so, since engraving appears to have been

often a later and secondary process for which inscriptions were first written in ink on a surface to be engraved Where, however, we have differed from older scholars is in another direction While the early Indian palaeographical studies have generally been the study of inscriptions as sources of history and the palaeography has been confined to discussion of the origin of the script or forms of some particular letter we have chosen to concentrate mainly on the evolution of the script as a whole in its proper cultural context

I am deeply indebted to those scholars, whether they are referred in the following text or not who have worked in the field of palaeography Their studies served for me as a valuable background The choice of a historical study of the Brāhmi script, no doubt, came with the publication of *The History and Palaeography of Mauryan Brāhmī Script* (1960) by C S Upasak, but, of the recent studies on the subject, I have derived much benefit from the *Indian Palaeography* (1963) by A H Dani I have also derived much inspiration from *A Study of Writing* (1963 second edition) by I J Gelb.

A word about the Śaka era We have accepted the current general belief that this era was started by Kanishka in A D 78 as a working hypothesis However, we are aware of the difficulties in accepting this theory but believe that on palaeographic grounds there can not be a vast difference in the date of Kanishka, even if we donot accept him to be the originator of that era

I am very much thankful to Dr J N Tiwari Dr Nisar Ahmad, Sri R S Mishra Sri Lalta Mishra Sri Suresh Chandra Ghildiyal for their help in preparation and printing of this work in many ways. I am under heavy debt of gratitude to my *guru* Prof A K Narain, who helped me in the selection of this topic for research and very generously guided me, and, it is to his valuable suggestions that the present form of the book is due

I must express my gratitude to Prof. A.L. Basham, of Australian National University, Canberra, who not only very kindly had gone through the type-script and gave many valuable suggestions and criticisms but also graciously agreed to introduce my work to the world of scholars. My thanks are due to the authorities and workers of the Eureka Printing Works Pvt. Ltd., Varanasi, especially to Sri Amar Nath Dutt, whose close co-operation I always received.

Varanasi.
November, 1970. T. P. V.

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ABBREVIATIONS

ABORI	Annals of the Bhandarkar Oriental Research Institute, Poona
AIU	Age of Imperial Unity, History and Culture of Indian People, Vol II
AO	Acta Oriantalia
ASI (AR)	Archaeological Survey of India (Annual Report)
CAI	Coins of Ancient India by Cunningham (Varanasi).
CCAI	Catalogue of the Coins of Ancient India by Allan
CHI	Cambridge History of India, Vol I, ed E J. Rapson First Indian Reprint 1955.
CII	Corpus Inscriptionum Indicarum
DCRI	Deccan College Research Institute
EI or Ep. Ind	Epigraphia Indica
GBI	Greeks in Bactria and India, by W W. Tarn
HPMB	History and Palaeography of Mauryan Brahmi Script, by C S Upasaka
IA	Indian Antiquary, Bombay
IC	Indian Coins, by Rapson
IG	Indo-Greeks by A K Narain
IHQ	Indian Historical Quarterly, Calcutta
IMC	Catalogue of the Coins in the Indian Museum, Calcutta, Vol. I by V A Smith
Ind Cult.	Indian Culture, Calcutta
IP	Indian Palaeography by Bühler
IP	Indian Palaeography by A H Dani
JA	Jain Antiquary.
JAS	Journal of the Asiatic Society.
JASL	Journal of the Asiatic Society (Letters), Calcutta.
JASB	*Journal of the Asiatic Society of Bengal*
JAHRS	Journal of the Andhra Historical Research Society
JBBRAS	Journal of the Bombay Branch of Royal Asiatic Society.
JBORS	Journal of the Bihar and Orissa Research Society
JBRS	Journal of Bihar Research Society
JGRI	Journal of Ganganath Jha Research Institute
JMU (NS)	Journal of the Madras University (New Series)
JNSI	Journal of the Numismatic Society of India, Varanasi
JOHRS	Journal of the Orissa Historical Research Society
JOI	Journal of the Oriental Institute, Baroda.

JOR	Journal of Oriental Research.
JRAS	Journal of the Royal Asiatic Society of Great Britain and Ireland, London.
JRAS Bengal	Journal of the Royal Asiatic Society of Bengal, Calcutta.
JRASBL (Num. Suppl)	Journal of the Royal Asiatic Society of Bengal Letters, Numismatic Suppliment, Calcutta.
JUB	Journal of University of Bombay.
JUPHS	Journal of U.P. Historical Resarch Society, Lucknow.
Mem. ASB	Memoirs of Asiatic Society of Bengal.
Mem. ASI or MASI	Memoirs of Archaeological Survey of India.
MI	Mathura Inscriptions, by Lüders.
MRE	Minor Rock Edict.
MS	Monuments of Sāñchī, by J. Marshall.
NPP	Nāgarī Prachāriṇī Patrikā, Varanasi (Hindi).
PHIC	Proceedings of Indian History Congress.
PTIOC	Proceedings and Transactions of Indian Oriental Conference.
SI	Select Inscriptions, by D.C. Sircar.
ZDMG	Zeitschrift der Deutschen Morgenlandischen Gesselschaft.

TRANSLITERATION TABLE

A Ā I Ī U Ū E AI O AU AṀ ḤRI
अ आ इ ई उ ऊ ए ऐ ओ औ अं : ऋ

KA KHA GA GHA ṄA
क ख ग घ ङ

CHA CHHA JA JHA ÑA
च छ ज झ ञ

ṬA ṬHA ḌA ḌHA ṆA ṚA
ट ठ ड ढ ण ड़

TA THA DA DHA NA
त थ द ध न

PA PHA BA BHA MA
प फ ब भ म

YA RA LA VA ŚA SHA SA HA KSHA
य र ल व श ष स ह क्ष

CHAPTER I

THE BACKGROUND

Brāhmī is the earliest known script of India which has been deciphered and read, and the earliest known specimen of this script does not date before the time of the Mauryan emperor Aśoka.[1] Further, as we shall presently see, in its earliest specimens, Brāhmī does not give the impression of having had a long history or having passed through many stages of development. This being so, and considering that we propose to trace the history of this script from as early as the late 3rd century B. C., we feel it would not be out of place to make a few observations on the origin of the Brāhmī script in India along with a brief review of Aśokan Brāhmī. Scholars in this field so far have mostly confined themselves to the evaluation of references to writing in ancient Indian literature or to negative evidences not very dissimilar in nature or to trace its ancestry from any known earlier script of the world. The problem has rarely been touched at its core. Such significant questions as why, how, in what quarters the need for a script such as Brāhmī was felt in India were never raised or answered. It is only through answers to such queries—through ascertaining the historical process of origin and development and examining the underlying principles—that we may hope to throw real light on the subject.

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1. Cf. Upasak, C.S., *HPMB*, p. 192; and Dani, A. H., *IP*, p. 31.

Writing is an item of culture and has its origin and history in a particular cultural context Many cultures, at one or the other stage of their development, started using the device of recording their language But the use of writing may not necessarily be the invention of a people themselves Sometimes existing writing systems are adopted by a people to write their language and sometimes the knowledge of the existence of such a useful device inspires a people to create a new script for their speech

In modern times, I J. Gelb has made the most thorough and serious study of the origin and nature of writing and the general principles of its developments [1] By a minute analysis of the scripts of the world—ancient as well as modern—Gelb came to the conclusion that all scripts follow a certain unidirectional line of development From origin to full evolution, a script has to pass through such necessary stages as logography, syllabography and alphabetography [2] Whether a script is a people's own invention or borrowed, no stage of development can be skipped, that is to say that although in some cases the development may stop after a certain stage, 'no writing can start with a syllabic or alphabetic stage unless it is borrowed, directly or indirectly, from a system which has gone through all the previous stages' Similarly, on the other hand, 'there can be no reverse development,' i. e 'an alphabet cannot develop into a syllabary, just as a syllabary cannot lead to the creation of logography'

Gelb has not found it necessary to minutely test his principle of unidirectional development against the Brāhmī script, but under the rigours of the same rule, he remarks, 'for that reason, it is absurd to speak of the development of Ethiopic (or Sanskrit) syllabaries from a Semitic alphabet,' and therefore, in his opinion, 'both the Ethiopic and Sanskrit writings are further developments from a Semitic syllabary, which, in

1 Gelb, I J, *A Study of Writing*, Chicago, 1962 (2nd Ed ,)
2 *Ibid*, p 201

turn, is a creation following the model of the Egyptian syllabary'.[1] Gelb, of course, is conscious of the difficulty of describing Brāhmī script as alphabetic or syllabic; for instance the consonant sign *ka* of Brāhmī (combined as it is with the vowel sound *a*) cannot be called an alphabetic sign, and still it could hardly be called syllabic. But it appears that he postulates the Semitic contribution to Brāhmī mainly to explain the almost complete absence of the earlier stages of this script.

Elsewhere, however, Gelb has taken a different stand on this problem. While dealing with the origin of Semitic writing, he considers six possibilities in the writings of the world outside the Semitic group. The sixth, with which we are concerned here, runs : 'The forms are freely invented with new values as found in a large number of writings such as Balti, Brāhmī... etc.'[2] In this context, he also notes his disapproval of the various theories of borrowings based on superficial similarities. In his words, 'such formal resemblances between Semitic and other writings as have been brought out by various scholars can be due to nothing but accident.' The majority of scholars who have worked on the problem of the origin of Brāhmī from Bühler to David Diringer and even including Dani, had utilized such resemblances to arrive at 'fallacious results.' Recent researches and experiments have shown the futility of such attempts.[3]

It is clear from the above that while Gelb does not appear to subscribe to the monogenesis of all the scripts of the world in the usual sense,[4] he is also not completely free from it. Only, instead of looking to the Semitic alphabet for 'Sanskrit writings', or 'Sanskrit syllabary', he goes still further back to find its inspiration in the Semitic syllabary. This is a hypothesis for which he supplies no convincing argument, except probably

1. Gelb, *op. cit*, p. 201.
2. *Ibid*, p. 144.
3. *Ibid*. pp. 144-45.
4. *Ibid*, pp. 217-18.

the necessity of the principle of the unidirectional development discovered by him.

We feel that the problem can be looked at also from another point of view A script can be created by an intelligent and culturally advanced people simply by the knowledge of the existence of a system of writing. Our contention is that, on this hypothesis, all the difficulties about the origin of Brāhmī script may be resolved Further, we may also note that this pre-existing inspiring script need not have been the Semitic one, not only for the reason that Brāhmī is not derivable from any Semitic script but also because the possibility of a pre-Brāhmī script in India cannot be ruled out, at least on theoretical grounds

On the problem of the origin of Brāhmī in particular, one has to consider the principles of 'inner development' and of 'outer development' [1] The principle of inner development concerns mainly the phonetic value attached to the particular sign of a script. Phonetic value given to the sign also changes or evolves in the same way as the outer form of the letters evolves But the principle of inner development is true mainly in the case of the development of the alphabet. In the case of *varṇamālā*, we find it fully developed long before the use of Brāhmī script,[2] by the time of Yāska it was perfected

Once we take the above fact into consideration, we will not have to look very far for the origin of Brāhmī script, because a fully developed *varṇamālā* is there and at least the knowledge of the existence of writing can be presumed We will not indulge here in discussion about this pre-existing writing, for that is immaterial here. The only thing needed for the people was to create a new script with the help of simple geometrical forms of straight lines, triangles, squares and circles etc which can be easily learnt and remembered by the users of the system.

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1 Gelb, *op cit*, pp 251-52 I owe these terms to Gelb

2 L Sarup, *An Introduction to Nirukta*, p 55

As put by Gelb, any formal resemblance can be due to nothing but accident, if it is not associated with the same phonetic value and on that account it is fallacious to derive the origin of one from the other. Most of the scholars who have worked on the *origin of Brāhmī script did not take this fact into consideration.* They failed to take into account that a script has got two elements, namely, (i) the formal (visual) element and, (ii) the phonetic element. They also failed to recognize that there is a fundamental difference between the evolution of Brāhmī and the evolution of the alphabet of the West.[1] In India, the script follows *varṇamālā* while in the West the alphabet followed the script, which is evidenced by the changes in the alphabet at many stages of its development.[2]

To the question why a fully developed *varṇamālā* of 64 or 63 letters[3] was partially adapted to a script having 45 signs only our answer is that perhaps the newly created script was mainly for the purpose of writing the Prākrit languages having many less sounds than the Sanskrit. This needs elaboration.

The sixth century B.C. has been described as 'an age of far-reaching religious reforming activity over the whole of the ancient world.'[4] Just as in Greece, China and Iran, so also in India, this period witnessed a remarkable cultural movement, embracing every aspect of life—social, political, economic, religious etc.[5] By this period in India, the tribal organisation of the society has given place to territorial units and a large

1. We have no inclination to call Brāhmī *varṇamālā* an alphabet and it should be mentioned here that it is not true that the alphabet of the West is the final development of phonetic researches in the sphere of writing.
2. Verma, T. P., *JOI*, Baroda, Vol. XIII, No. 4, p. 369.
3. Trishashṭiḥ, chatuḥshashṭirvā varṇāḥ śambhumate matāḥ, *Pāṇinīya-Śikshā.*
4. *The Cambridge Ancient History*, III, p. 499.
5. See : Pande, G. C., *Studies in the Origins of Buddhism*, Allahabad, 1957, Ch. IX, where an excellent account is available.

number of *Janapadas* had come into being vying with each other for supremacy [1] Growth of towns and development of trade and commerce is another distinct feature of this age.[2] Probably money was invented during this period.[3] In the field of religion and philosophy, the age is still more noteworthy [4] There was a very marked tendency towards doubt and dissent and free speculation We have a mushroom growth of ascetic teachers in eastern India all preaching anti-vedic ways of life The vedic brahmanical tradition receives a definite set-back and in its attempt to survive it is gradually transformed [5] In addition many popular religions appeared which were later to change the colour of the religious history of India [6] Further, the thought of this period exhibits this remarkable feature that it is addressed not to a select minority, but to all without any distinction of caste or sex [7] All these developments were not mutually exclusive but part of a common cultural movement in India.[8] The changes in social life appear to go hand-in-hand with those in the realm of thinking The social changes probably created an 'occasion' for fresh thinking and new doctrines facilitated and justified changes in social life The evidence, on the whole, is overwhelming that here we are unmistakably in an age of a general awakening of the common people.[9] This had far-reaching impacts on the

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1 Pande, *op cit*, pp 311 12

2 *Ibid* p 314

3 *Ibid*

4 See *Ibid*, Ch IX

5 *Ibid*, pp 315 17

6 See R G Bhandarkar, *Vaishnavism Śaivism etc*, which traces the history of the popular devotional religions of India, A K Coomara swamy, *Yakṣas*, pp 1 3, G C Pande, *op cit*, p 318 ft, Hiriyanna, M, *Outlines of Indian Philosophy* Ch III

7 Hiriyanna, M, *op cit*, p 87

8 Pande, G C, *op cit*, pp 310-11

9 Hiriyanna, M, *op cit*, p 88

social, religious, artistic, literary and linguistic history of India. We are mainly concerned here with growth in the prestige and popularity of the languages of the common people. It is a well-known fact that the *parivrājaka* teachers of eastern India during this period chose local dialects for their instructions,[1] interested as they were in bringing philosophy into the open and proclaiming it far and wide. And here, the most significant contribution is that of Gautama the Buddha. Buddha not only adopted the spoken language of his region for his sermons but emphatically denied their preservation in any sacred language, and freely gave his consent to learn them in one's own own tongue.[2] It is thus possible to imagine that the Prākrit languages directly received a great impetus as a result of the cultural movement of the 6th century B. C. in general and of the attitude of the *parivrājaka* teachers like Buddha in particular. Prākrit languages thus became vehicles of sacred truths of religions and got an honoured place in literature, and they gradually spread throughout the nation and even beyond it.

Sanskrit was the language of the higher strata of the Aryan society and the elaborate and complicated Vedic religion was the monopoly of the privileged few, who possessed a highly evolved language, difficult for the bulk of the society even to pronounce. This privileged class had a full fledged *varṇamālā* of 64 letters and most probably had some complicated script also of which no positive evidence remains.[3] In ancient times, long before the invention of printing, the art of writing was not so popular. Only a few societies possessed the knowledge of writing and even in these societies a very limited number of people must

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1. See the *Age of Imperial Unity*, pp. 281-282; also of Belvalkar, S.K. and Ranade, R. D., *History of Indian Philosophy*, Vol. I (The Creative Period), p. 460.
2. Dutta, N., *Early Monastic Buddhism*, Vol. I, pp. 130-131; Pande, G.C., *op. cit.*, p. 11.
3. Cf. *Mudrārākshasa*, Act I, Srotriyāksharāṇi prayatnalikhitānyapi niyatamasphutāni bhavanti.

have known it This gave immense importance to the art of writing Now it can be imagined that if such an art falls into the hands of an exclusive monopolist group, who can order to cut the tongue and fill molten lead into the ears of those who recite or hear the sacred texts undeserved,[1] there is no hope of the knowledge being imparted to the common people No wonder, if under the influence of a strong cultural movement as outlined above, a script, simple and precise, was created for the use of the popular language which had much fewer sounds than the Sanskrit

Brahmi has its own history of development which can be compared with a tree growing numerous branches As it is possible to trace forward the history of Brāhmī, so also it is possible to trace back its history from almost any stage In the process of tracing back the history of Brāhmi, when one reaches the second-third century B C , one feels that he is not far from the original source from which the Brāhmī was derived [2] The simple primitive angular form of Aśokan script shows that it was not long before that this script was invented The credit of its propagation, throughout the length and breadth of the country, goes to the missionary enthusiasm of Aśoka For his edicts he selected a single medium—stone, a standard script,[3] and a definite mode of expression All this was imperial inspired by the king himself, and, had a uniformity throughout the empire Thus Aśoka gave the country a standard script to start with And here begins the real history of Indian palaeography

We are now in a position to review the nature of Brahmi script in the period of Aśoka

The Script of Aśoka

In Aśokan edicts only seven vowels (*a, ā i, e, u o* and

1 *Gautama*, 12 4 quoted in *The History of Dharmaśastra*, Vol II, Pt I, P 155

2 Verma, T P , *op cit* , p 360

3 Upasak, C S , *HPMB*, p 193

aṃ) including nasal, and 33 consonants including semi-vowels, sibilants and spirant are used. Long vowels *ī*, *ū*, *ai*, *au* are avoided but the medial signs for *ā*, *i*, *ī*, *u*, *ū*, *e*, *ai*, *o* and *anusvāra* are used. Among the consonants only guttural nasal *ña* is not used.

Almost every letter has a cursive variety but the standard form remains the same. One can notice the germs of subsequent developments in these varieties, which we will discuss in the proper place. Reverse forms of some of the letters are also found. Reverse *o* – ʃ – in RE Dhauli and RE Jaugada,[1] and *dha* – ɢ – at Dhauli, Jaugada in SRE, at Delhi-Topra on PE and at Rupnath, Maskī, Erraguḍi and Gujjar in MREs [2] have been noticed. But this reverse variety of *o* is not found in later inscriptions, though the reverse type of *dha* becomes a characteristic of the later period. One may notice very peculiar shapes of many letters but all these cannot be regarded as separate varieties. These peculiarities can be attributed to the individual habits and mannerisms of the writer and, to some extent, also of the engravers.

The Aśokan inscriptions are well written. Stone was selected as a suitable medium, for it survives longer.[3] Inscriptions on pillars with smooth and highly polished surface were engraved after polishing, but for the inscriptions on rock—quartzite, trap, granite etc.—no attempt at the preparation of the surface was made. As a result the pillar inscriptions are comparatively better written than the rock ones.

The technique of engraving on stone was far advanced during this period. To engrave on the surface of a rock or a pillar, an inscription was first written by the *lipikara* or *dipikara* with the help of a longish piece of charcoal or hematite. It was due to this writing tool that the lines of the letters are

1. Upasak, *op. cit.*, p. 52.: and Dani, *op. cit.*, p. 38.
2. *Ibid*, p. 257 App. XXV(9).
3. Chira-thitike siyā, *MRE*, Rūpnāth, 1.4.

uniform in breadth Dani[1] observes that 'this device can not result in the formation of the so-called 'serifs' on the top of the verticals' He further opines that 'Buhler was mistaken in detecting these marks in Aśokan Brāhmī'.[2] After the primary writing there followed the task of the cutter, who engraved every letter carefully and faithfully. Presumably he was an illiterate man, judged by the way he blindly follows the lines of the writer, and therefore he should not be expected to follow the writer's pen strokes He takes liberty in chiselling the letters, that is to say he feels free to cut a certain part of a letter first and the other next, irrespective of the movement of the writer's hand For example, while cutting *ya* the chiseller could begin with ᒐ or ᒐ , and then add the second hook as ᒐ or ᒐ [3] This is most important from the view point of the palaeographer, whose main job is to determine the trend of the writing And it was not the chiseller who was responsible for the formation of the letters. In Aśokan inscriptions his part was a secondary one. The writer was mainly responsible for the shape and the style of the letters. Unfortunately we are not in an advantageous position on this point, and therefore faithful reproduction of the letters and their classification into varieties on this ground can not bear much fruit Dani is right when he says that, 'the most important point is to find the manner in which the letters were actually formed, once we discover this the shapes emerge of themselves'.[4]

Transition towards popularity · late 3rd century B C

After the death of Aśoka his style was continued to some extent by his grandson Devanampiya Dasaratha in Nagarjuni cave inscriptions.[5] These are three in number but identical in content except for the name of the caves Here

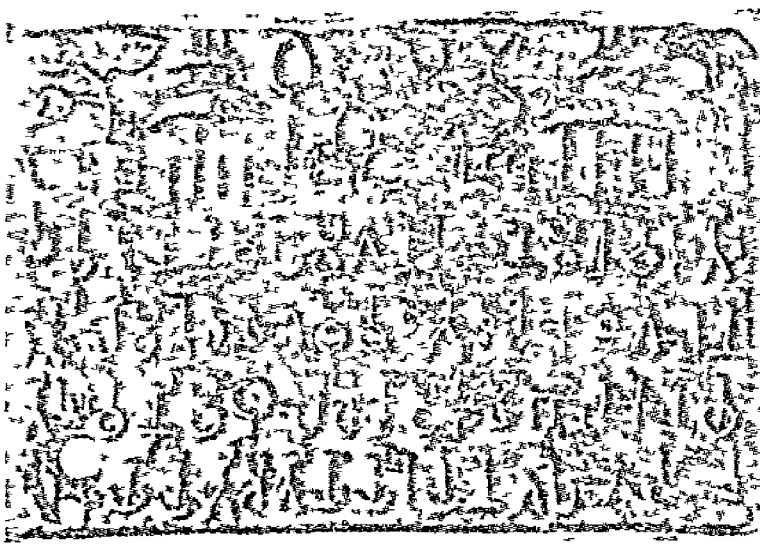
1 Dani, *op cit*, p 33
2 Ibid
3 *Ibid*, p 33
4 *Ibid*, P 34
5 *MASI*, No 1, pl I

the verticals of the letters are strikingly reduced and a thickening tendency is also noticed in some of the letters.[1] Slanting form of *ja* and straight line horizontal medial for *o* are some traits, which can be judged to indicate ultra-modern tendencies in these inscriptions, and some of them are accepted as current in subsequent period.

In these inscriptions the dental *sa* always is written like a retroflex *sha*, a phenomenon which has been observed in the Mahasthan inscription also. We venture to suggest that this can be taken as a style of the region. In Nagarjuni cave inscriptions the dental *sa* has been written like retroflex *sha*, but it is wrong to suggest that it is always replaced with retroflex *sha*.[2] Dani[3] points out that had it been intended to be *shū* the medial *ū* should have been attached to the second curve but it is to the main curve- & - and therefore it should be read as *sū*. Similarly in Mahasthan also the medial *u* of *su* is attached to the main curve.[4] Here it can be pointed out that from the 5th century onwards the copper plate inscriptions of Bengal mostly dropped the form of *sha* and used only dental *sa*.[5] The general appearance of the script of the Mahasthan record is similar to that of Aśoka. Its nature also suggests that it is some official record. D. R. Bhandarkar believes it to be issued by some 'prince of Mauryan dynasty'.[6] If any conclusion can be drawn from the similarity of the use of *sha* in these two sets of inscriptions, this prince can be suggested to be Daśaratha. Barua traces its association with the Sohgaura inscription,[7] on the basis of similarity of the contents of both the records. The Sohgaura inscription is on a piece of cast bronze measuring $2\frac{1}{2}'' \times 1\frac{7}{8}'' \times \frac{1}{16}''$ weighing $5\frac{2}{5}$ *tolas* and, not on a piece of copper as generally

1. Upasak, *op. cit.*, p. 173.
2. *Ibid.*
3. Dani, *op. cit.*, pp. 55-56.
4. Upasak, *op. cit.*, p. 182.
5. Cf. Dani, *op. cit.*, p. 130.
6. *EI*, XXI, p. 89.
7. *IHQ*, X, p. 57.

Fig 1 Sohgaura Copperplate



Sohgaura Bronze Plaque Inscription

believed [1] Since 1894 several scholars have expressed their views on this epigraph [2] In 1952 Sircar[3] examined the original record, which is the property of the Asiatic Society, and found to his surprise that 'the reading of the inscription preferred by scholars who did not examine the original contains several mistakes' He now concedes 'that his own

1 Sircar, D, C, Sohgaura Bronze Plaque Inscription, *JASL*, XVII, No 1, 1952, p 1

2 Hoey, Smith, Hoernle, Buhler, Barua, Jayaswal, Chakravarty etc have devoted very little space to the palaeography of this inscription They have mainly concentrated on other points dealing with the age of it and referred to its palaeography very casually Sircar and Upasak have dealt with the palaeography of individual letters to a greater extent

3 Sircar, D C, *op cit*, p 1

transcript and interpretation of the record, having been based not on the original but on its representations, are not free from errors'. Here it will not be out of place to mention that this is one of the major difficulties in the way of the students working on Indian palaeography. It is not practicable to examine each and every record in the original and therefore one has to depend on their photographic representations. But even these photographic representations are not always very dependable. They are sometimes adjusted and retouched to suit some particular point of view or reading. We have two such photographs of the inscription under discussion. One photograph is reproduced from the *JRASBL*, III, 1937, *Numismatic Supplement*, (Silver Jubilee Number) Pl. 7, Fig. 1, entitled 'Sohgaura Copperplate', which will be referred to as *NS* photograph. The second one is from *JASL*, *XVIII*, 1952, pl. I[1] entitled 'Sohgaura Bronze Plaque Inscription' by D. C. Sircar. A comparison of these two photographs reveals startling differences in the formation of individual letters. We propose to point out some of them as follows :

1. Line I, 2nd letter : There is a marked difference in the formation of the letter *va* in the two photographs.

2. Line II, 2nd letter : The *i* medial attached to the letter *sa* gives two different formations. In the *NS* photograph the upper end of the medial turns to the left, which is very significant from the viewpoint of palaeography. But in the *JASL* photograph there is no indication of any such stroke.

3. Line II, 6th letter : This letter looks something like *pa* in *NS* photograph. In Sircar's plate it has an appearance which can be read as *va*. Bühler and Sircar etc. read this letter as *va* while Fleet and others preferred to read it as *u*.

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1. Here it is to be mentioned that while the journal is dated 1952 the plate bears a different date. It is entitled as *JASL*, XVII, pl. I. To avoid any possible confusion we will refer to this plate with reference to the date given on the Journal and not on the plate.

4. *Line II, 13th letter* In the *NS* photograph there is no indication whatsoever that this letter has any *u* medial sign while in the other photograph there is a suspicious suggestion of it [1]

5. *Line II, 18th letter* This letter *la* has no *ā* medial sign in the *JASL* photograph but in the other there is a clear *a* medial

6 *Line III, 2nd letter* This letter has been variously read as *ya* and *gha* by Fleet[2] and Buhler[3] respectively In the *NS* photograph it looks like *ya* and in the *JASL* photograph it is more like *gha* Such differences are misleading

7. *Line IV, last letter* The letter is *ya*. Some scholars read an *o* medial sign attached to it and some do not recognize any such medial sign Here both readings can be confirmed through the photographs In *NS* copy it is *yo* while in *JASL* copy there is no such indication

Such instances can be multiplied, and at least thirty percent of the letters appear to have been retouched unjustly In our opinion Sircar's representation is nearest to the original one For our table we have taken the help of this photograph

By nature this epigraph is unique one. It is cast in a mould, believed to be 'a sand-mould of imperfect smoothness' or 'a hard or fairly hard mould' It was rightly observed that this explains the unevenness of its surface and the meaningless dots that stand between the letters which may be taken for *anusvaras* The reverse formation of the first letter of the second line and typical *i* medial attached to the letter *ha* of the fourth line may be explained as casting errors, though the latter error may be of some significance as we come across a similar formation in

1 *JASL* XVIII, p 2
2 *JRAS*, 1907, p 522
3 *IA*, XXV, 1896, p 262

the first letter of the Barli inscription.[1] This point will be considered in detail later.[2] Two similar cases of *ga* versus *ta* may also be casting mistakes though there is the possibility of their being linguistic usages. The first occurs in the first line which has been read by Sircar as *mahamaga-(ta)na* and the second in the last line read as *gahiga(ta)vaya*.[3] There can be no confusion about the first *ga* which is clearly a *ga* but the formation of the second one may be doubted.

The Piprahva vase inscription has a different story. For its association with the Mauryas we have no ground other than the flimsy and fickle one of palaeography. For palaeographic studies here we are in an advantageous position for several reasons.

This short inscription is scratched (not engraved) on a spherical casket of sandstone, probably with some pointed stylus. Palaeographically it can be noticed that there are three main factors which influence the formation of the letters in this epigraph and make them look more archaic than they are: (i) scratching done on a hard material like sandstone (ii) the spherical shape of the casket, (iii) the use of a pointed stylus or tool for writing.

The hardness of the stone made scratching very difficult, and sometimes affected the formation of the letters. For example, the middle vertical of the letter *ya* of *iyaṁ* is not a straight line but curved; similar is the case with the letter *te* of *bhagavate*. Such curved lines are, most probably, due to the hardness of the material. The spherical shape of the casket also influenced the formation of the letters. Engraving on a pot might have involved a risk of damage which was avoided by adopting the method of scratching. The device of scratching on a spherical object tended to make the letters long and slanting.

1. Haldar, R. R., *IA*, 1929, p. 229.
2. Infra, p.
3. Sircar, D. C., *SI*, p. 85.

The medial sign for *u* also tends to become somewhat longer The use of a pointed stylus sometimes made repeated scratches necessary, which resulted in some additional and unwanted strokes Such additional lines can be observed in the photograph,[1] in the letters *na* of *bhatina* and *ni* of the word *sabhaginika* etc But one of the obvious advantages of this scratching, for our purposes, is that we can observe the movement of the hand of the writer in the process of writing, which is otherwise difficult to notice in engraving The movement of the hand determines the course of the development of the script

The inscriptions from the Ramgarh hill caves are private in nature but have close affinity with the administrative record of Mahasthan because of the use of the *danda* as a punctuation mark and the use of the retroflex *sha* in place of *sa* There are two inscriptions in two separate caves on the western slope of the Ramgarh hill [2] The northern cave is called Sitabenga and the southern one Jogimara. The Sitabenga inscription is engraved in two lines of thin but almost equal sized letters, while the Jogimara one spreads over five lines with letters of unequal size. It seems that the scribe of the Jogimara cave inscription was a literate man and he tried to incise the record on the surface of the rock without writing it first with chalk or similar material This is evidenced by the two lines engraved in small letters above the three line inscription, the contents of which are the same as the first line of the lower record. Upasak rightly observes that 'perhaps finding the letters too small or the smooth surface insufficient, he gave it up and restarted the whole text once again in bold letters ..'[3] It is possible that he could not estimate the space to be occupied by the text without a preparatory writing The other evidence of this unprepared engraving is the size of the letters, letter *da* and the conjunct *kyi* of the third line are of unusually large size while the letters *ka* and *na* etc of the same line are the

1 Sircar, D C , *SI*, pl facing page 83

2 Bloch, T., *ASI* (*AR*), 1903-4, pp 123 ff

3 Upasak, *op cit* , p 183

smallest. The conjunct *kyi*, for want of smoothed space, is engraved slightly below the line consequently appearing to be in the subsequent line. Also the lines are not straight.

Though the dialect of the Jogimara cave is Magadhi and that of the Sitabenga is Lena-Prakrit, both the inscriptions are contemporary.

All these inscriptions can be ascribed to the close of the third century B. C. which marks a transitional period. During this period, Brāhmī freed itself from the stereo typed formula of Aśoka's imperial mode of expression and tended towards popularity. After the death of Aśoka, disintegrating trends started functioning and regional cultural diversities, suppressed under Mauryan imperialism, were let loose. Because the successors of the Mauryas failed to keep the whole country under a single political canopy and because foreign invaders became more active on the north-western frontier of India smaller kingdoms sprang and more intimate cultural contacts with the western world became inevitable, The former factor divided India into many sub-cultural units and the latter made some units more adoptive and progressive than the others in remote areas. The centre of cultural gravitation shifted from Magadha in the east to Mathura in the west and innovations and inventions were accepted in the west more readily than in the eastern and other parts of the country.

The Age of Experiments : 2nd century B. C.

For the first time writing appeared on the coins in this period. The old technique of punching was discarded and modern techniques of incuse-stamping, as in the Negama coins from Taxila, die-striking and casting were adopted. Second century B. C. is marked by such experiments in transition and incuse-stamped Negama coins, cast square *kāḍa* coins and the coins of the early Yaudheyas, Erakanya coins, reverse-legend coin of Dharmapala which are either die-struck or cast can be

attributed to this century. Sometimes these coins are attributed to the early third or even the fourth century B C. which does not seem justifiable in the face of the fact that the Mauryas were ruling during this period and that they used the knowledge of writing very extensively. The new techniques of coinage can be attributed to Greek influence The Besnagar pillar inscription of the ambassador Heliodorus from the court of the Indo-Greek king Antialikidas to the king Bhagabhadra in Malwa, also belongs to this period and provides valuable insight into the prevailing mode of writing which was soon to be accepted as current in this region The inscriptions of this period form the subject matter of the third chapter.

The Period of Diffusion : 1st century B. C

The first century B C is marked by the movement towards the popularisation of the art of writing Though the Ghosundi and Bhilasa inscriptions are associated with royal names their theme is popular, that is to say, religious The legends on the tribal and local coins of the Yaudheyas, the Arjunāyanas, and the earlier issues of Kausambi, Kanauja etc are also evidence of this movement The Barli inscription can also be placed in this period on the grounds of palaeography The construction of the great stupas at Sanchi and Bharhut was in progress and the enthusiastic *upāsakas* (householders) as well as *bhikkhus* took an active part and gave donations Beside their religious zeal the temptation of having their names engraved on the stone railings etc. contributed much towards the completion of these stupas. There is little doubt that this was a great step towards the popularisation of the art of writing The early inscriptions of Sanchi and Bharhut belong to this period along with the coins of series II This will form the subject matter of the fourth chapter.

A New Pen Style : early 1st century A. D.

The increasing popularity of writing introduced individual and personal elements in the script which consequently gave rise

to local styles. New techniques and personal interests evolved new styles in writing and by the time the Christian era started some new elements were introduced, most probably under foreigners–the Saka Kshatrapas of Mathura. With the introduction of the edged reed pen, letters took a new face.[1] Since the time of Aśoka some simple tool had been used which gave the lines of the letters uniform breadth and through this device the so-called 'serif' on the top of the verticals could not be produced in Aśokan inscriptions. Dani notices the mistake of Bühler in depicting these marks in Aśokan Brāhmī.[2] But with the introduction of this new tool, a new style of writing emerged with consequent simplification or elaboration of shapes. From this, also taking into account individual mannerisms, common to a large group of writers in a given area, regional schools emerge. The diffusion of the knowledge of writing and the degree of the practice with this new tool differentiated one school from the other. The new tool contributed in the formation of the heads at the top of the letters which were the natural outcome of handling it in a skilled way. It also resulted in beautifully curved flourish in the formation of the medial *i*. Dani observes that in some places this technique was properly known and used, in backward regions it was only copied in a crude fashion. In the latter case the head formation appears like a dot or a sign as in Nanaghata and Arikamedu.[3] In this period the centre of gravity of cultural activities shifted to Mathura which became a great centre and remained as such under the Kushanas for three centuries after which the centre of gravity again shifted to the east under the Imperial Guptas. In the field of palaeography also the Mathura school developed great importance during the first three centuries of the Christian era.

For the convenience of study the first century has been divided into two sections. During the first half the process of

1. Dani, *op. cit.*, p. 52.
2. *Ibid*, p. 32.
3. *Ibid*, p. 53.

the diffusion of the knowledge of writing continues and as a result of foreign contacts, the influence of the Greek palaeography and the new tool, a revolutionary change can be noticed in the inscriptions of the Kshatrapas of Mathura, and of Sanchi Series III and of the coins Series III. In the eastern region also in the inscriptions of Bharhut, the Bodhgaya railings, Pabhosa and Ayodhya this can be marked These are dealt with in the fourth chapter.

Under the Influence of the Great Kushanas

With the advent of the Kanishka group of the Kushanas the Mathura style of writing changed rapidly By now several regional styles can be noticed at different centres like Mathura, Sanchi, Kausambi Sahet Mahet etc That the art of writing had become very popular is clear from the fact that except for a very small number all the inscriptions of this period are by private individuals The new pen and individual mannerisms gave new face to some letters in certain regions, which became in due course the marked style of the locality. Most of the inscriptions are dated in an era starting from the advent of Kanishka which is generally equated with the Saka era beginning from 78 A D. There are, however, many undated inscriptions, but it is not difficult to assign them to a definite period and locality even on grounds other than palaeography. From the viewpoint of style, these inscriptions are classified and arranged into two groups The 'Western style' includes the inscriptions from Sanchi and Mathura region, while in the 'Eastern style' inscriptions from Sarnath, Sahet-Mahet Kausambi and Bandhogarh area are included In the 'Eastern style' are also included Mathura inscriptions of Kanishka of the years 4 and 14, and also that of

Huvishka of the year 33, because of the peculiar formations of letters *sa, ma, ha, la,* etc. occurring in them. A detailed discussion of these may be seen in the sixth chapter.

Gelb defines epigraphy and palaeography in the following words :

'The investigation of writing from the formal point of view is the prime domain of the epigrapher and the palaeographer. These terms are frequently interchangeable, but in good usage the two should be carefully distinguished. The epigrapher is interested chiefly in inscriptions incised with a sharp tool on hard material, such as stone, wood, metal, clay, etc., while the palaeographer studies mainly manuscripts on skin, papyrus, or paper. written in drawn or painted characters. Generally speaking. epigraphy treats of older writings; while palaeography is concerned with manuscripts from younger periods.'[1]

This definition, however, is not in accordance with the established traditions of Indian epigraphical studies of more than a century. An Indologist, whether Indian or foreigner, always takes palaeography as that branch of knowledge which deals with the formal development of individual letter signs. We too have followed this definition with one significant difference. While the old palaeographers mainly devoted themselves to answer questions like *what ? when ?* and *where ?*, we have tried to confine ourselves to *why ?* and, above all, *how ?* These are the questions of paramount importance in establishing the theoretical back-ground of a science like palaeography. Dani took the lead in this direction and we are much indebted to him for his studies.

In our study of palaeography, not much stress is laid on the standard forms of a period; rather, we have selected some forms of letters which explain their connection with

1. *Op. cit.*, p. 22; cf. also David Diringer, *The Alphabet*, p. 18.

corresponding forms of the previous period and also indicate the lines of future development In this type of study, the so-called 'varieties' do not have much importance, and we regard them as superficial and unnecessary

Palaeography is not a very firm base to establish a chronological scheme without the risk of endless controversy, and, hence in our opinion its study should be done in context of the previous and future formations of individual letters, and, in terms of the factors which were instrumental in such developments

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CHAPTER II

THE PERIOD OF TRANSITION

(late 3rd cent. B. C.)

The inscriptions of Aśoka had a unity of purpose and singularity of inspiration, consequently establishing a standard for the Brāhmī script throughout his vast empire. The script of the time of Aśoka has rightly been called 'imperial' by Dani,[1] having negligible variations which can hardly be regarded as regional or local.[2] One of the obvious results of his efforts was that the script of the royal proclamations was propagated all over the country and was made accessible to all people without discrimination. This can be regarded as one of his greatest services to the nation. But as far as the evidence has come to us there seems nothing from which one can infer that the art of writing was generally used by the people during his reign. It was during the time of his successors that the script started gaining popularity. Aśoka had a definite mode of expression which was not followed by Dasaratha, but even then the inscriptions of Dasaratha can be called royal, though the efficient hand of the royal *lipikara* is lacking there. The Mahasthan and Sohgaura records are administrative in nature. The former is engraved on the traditional medium-stone while the latter is inscribed by the technique of casting which became a favourite feature for the coins of the

1. *IP*, p. 50.
2. *Ibid*, p. 48; Upasak, C. S., *HPMB*, p. 193.

subsequent period There are some other records which are individual or even private in nature. The Piprahva vase inscrip tion can be called individual while the Jogimara cave inscription is private Thus this period is marked with the transition of the script from royalty to popularity

General Observations

A comparative study of the reproductions of the records will reveal that though the general formation system of the individual letters is almost similar to that of Aśoka the face of the letters differs very much from one record to another Such differences are mainly due to the differences in the selec tion of the writing tool and the technique. For example, if it is a stylus, as in Piprahva vase, the letters will be longish, and further, if the medium is spherical, as of the shape of a vase, the letters may be slanting too On the other hand, if the tool is a piece of chalk or hematite and the medium is stone, the letters may be stunted as in the Mahasthan record, or longish as in the Jogimara cave inscription But if the preparatory writing is done in ink on stone with a brush-like tool, the letters may be stunted and of irregular thickness due to the spreading of the ink, sometimes entirely filling the letters This we can notice in the Nagarjuni hill cave inscriptions of Dasaratha The writer of these records does not seem to have been very expert and neat in his performance for he did not care to put a dot in the circled to distinguish *tha* from *tha* [1] We can accept the use of *sha* for *sa* in this record as a regional habit on the basis of its occurrence in the Mahasthan inscription too The use of ink and a brush-like tool is clear from the letters *va* in *vadathika* (III inscription), and *la* in *Dasalathena* (II inscription) etc , where the letters are filled. Sometimes the writer seems to be in difficulty because of this, e g , in the letters *bha*, *da*, *a* and *ja* etc

1 R. P Chanda and D C Sircar read both the letters and Dani even puts a dot in the circle (his Pl V a, 1) but I could not trace any dot in the circle from the facsimile in *MASI*, No 1

The process of casting gives altogether a different face to some letters; for example *ma* has its upper and lower parts detached. The technical problems of scratching letters on wet clay may have led to the unique form of *ma* in this inscription, with upper and lower parts detached. In casting, there are also chances of the letters being reversed, as *da* in line II, and sometimes only a part of a letter is reversed by mistake, e. g., the *i* medial in *hi* in line IV.

Since the inscriptions which can be assigned to this period are few in number and short in contents, it is not unexpected if all the *aksharas* of the *varṇamālā* are not there. Sometimes important varieties of letters, as compared to those of Aśoka, are also wanting.

VOWELS

With the above general observations, we now discuss the types of letters found in this period and ascertain their connections with the corresponding Aśokan forms. Beginning with the vowels we find only three, *a*, *i* and *e* in these records. The letters *a* and *i* are basic and *ā* and *e*, secondary forms. Bühler distinguishes 'eight most important' Aśokan forms of *a* and *ā* merely from their external shape. But Dani recognizes only three main varieties from the point of view of technical formation.[1]

In the first series of Dani, 'the vertical is drawn first and the two curves to the left of the vertical subsequently. The varieties originate as the two curves come closer to each other'.[2] The first variety of this series of *a* is found in the Sohgaura plaque and the Ramgarh hill cave inscriptions (III. 1. i and V. 1. i-ii)[3] where the two arms meet the vertical at two different

1. *IP*, p. 36.
2. *Ibid.*
3. Refers to the plates at the end. First Roman numeral is column number, second Arabic numeral is for the line number and third small Roman number refers to the subdivisions of a column. The numbering of the columns is continued through the plates.

points, leaving a gap. But in the Mahasthan record both arms meet at a point (II 1 1) In all these varieties the arms are curved

In the second series of Dani's *a* 'the curves on the left are replaced by straight lines which make an acute angle They are drawn first and then the vertical is made Sometimes the vertical is bent to touch the apex of the angle or a short bar is drawn to join the apex with the vertical' [1] The Nagarjuni cave *as* are of this type. There we have a variety where a short bar is drawn to join the apex (I 1 1) and in another variety the vertical is slightly bent to meet the apex (I. 1 11). In this record, most examples of this letter are of the second type. The *ā* medial is always placed in the middle

The vowel *i* is used only in the Piprahva vase inscription where the third dot is placed above the two dots making the apex at the top This form of *i* appears in REG, PED1, MRE Sarnath, MRE Erragudi and the cave inscriptions of Barabar hill [2] Upasak observes that these forms are probably due to slovenliness on the part of the engraver.[3] But we cannot agree with this remark in this case because the Piprahva vase inscription is a scratching and therefore an example of writing at first hand Furthermore, if we agree with the observation that the Aśokan inscriptions were first written on stone and then the chiseller started his work, there is little chance of such a mistake This can happen only when a copy of the text is given to the engraver and he is asked to copy it down directly on the stone Such is not the case with the Aśokan inscriptions In our opinion, the position of the dots was entirely dependent on the habit of the writer and no definite rule can be formulated about it, according to which we can judge that one form is correct and the other incorrect

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1 Dani, *op cit*, p 36
2 Upasak, C S, *HPMB*, p 48
3 *Ibid*

The letter *e* occurs in the Mahasthan, the Sohgaura and the Ramgarh cave inscriptions. It is supposed to have been formed by joining the three dots of *i*, placed trianglewise, by lines.[1] In Aśokan inscriptions, this letter is found with its apex at the top, left and very rarely even at the bottom,[2] but in the standard form the apex is at the right.[3] In the Sohgaura and the Ramgarh hill records, the apex is found to the right but in the Mahasthan it is at the top in all cases, a tendency of later period. The position of the apex generally depends on the habit and convenience of the writer.

CONSONANTS

SIMPLE AKSHARAS

Gutturals

The letter *Ka* maintains its Aśokan form of a simple cross, but the vertical line is now longer than the horizontal one. This tendency can be marked in all the inscriptions assigned to this period except the Nagarjuni cave one. But in the Piprahva vase inscription, the vertical of this letter is unusually longer and slanting. The reason for this has already been discussed in the previous chapter. The medial sign for *ā* is a short bar to the right of the letter at the top. In the Piprahva vase, we come across an *i* medial attached to this letter which is formed by adding a short vertical to the *ā* medial, pointing upwards, thus making an angle (IV. 4. ii-iii). For medial *u*, a simple bar is added at the bottom of the letter pointing to the right (I. 4, ii), which is an Aśokan practice. But sometimes the bar is added slightly above the bottom point as in the Ramgarh hill cave inscription (V. 4. iii). This practice is not found in the Aśokan inscriptions[4] but we find such an example

1. Dani, *op. cit.*, p. 37; and Upasak, *op. cit.*, p. 49.
2. Dani, *op. cit.*, p. 37.
3. Upasak, *op. cit.*, p. 49.
4. Dani and Upasak do not illustrate this form of *u* medial to *Ka* in the Aśokan inscriptions.

again in the Bodh Gaya railing inscriptions which we will discuss in the fifth chapter In Aśokan script, the medial *e* is shown by a short bar added to the top of the letter This is followed in the Mahasthan inscription (II 4 ii) In adding *o* medial also, the Asokan practice is followed in the Mahasthan inscription, i. e , an *e* medial is attached at the top and then an *ā* medial is added to the right a little below it (II 4 iii) In the Sohgaura plaque, however this is reversed, i e , *ā* medial comes at the top to the right and *e* medial is a little below to the left (III. 4 iii) This may be regarded as a casting error rather than a practice

During this period we find two types of *kha* with a dot at the bottom of the hook or a circle in place of it, both prevalent in Aśokan script The first example is met with in the Mahasthan inscription (II 5 i) and the second one in the Ramgarh cave inscription (V. 5 i) In the Mahasthan example the *i* medial is a cursive one.

The letter *ga* is almost everywhere of the angular variety. In the Nagarjuni cave it seems to have a rounded top but this may be due to the use of a peculiar writing tool Its *o* medial also seems to be a single horizontal line extending to left and right but both the strokes are clear (I 6 i).

The reading of the letter *gha* in the third line of the Sohgaura plaque record is disputed Fleet,[1] Barua[2] and Jayaswal[3] read it as *ya* In the *NS* photograph this letter clearly reads as *ya*. D C Sircar also accepted this reading in his *Select Inscriptions*,[4] but after examining the original record he rejected this and accepted[5] Bühler's[6] reading of the letter as *gha* We also accept this reading and have reproduced this

1 *JRAS*, 1907, p 522
2 *IHQ*, X, p 54
3 *EI*, XXII, p 1
4 P 85 and fn 3
5 *JASL* XVIII (1952), p 2
6 *IA*, XXV, 1896, p 262

letter from the photograph given by Sircar in *JASL*, which looks like— ঘ —(III. 7. i). This is a standard Aśokan *gha*.[1]

Palatals

Among the palatals, *cha*, *chha* and *ja* are met with. The most frequent type of the letter *cha* is of the Aśokan form, having a small semi-circle to the left of a straight vertical line. In one instance, in the Nagarjuni cave records, the vertical is very short (I. 8. i). The *u* medial is shown by extending the vertical downwards (III. 8. ii). The *anusvāra* in this letter is placed near the top to the right and is always shown by a dot.

The last letter of the third line of the Sohgaura plaque has variously been read by Bühler as *chha*[2] and by Fleet as *va*.[3] Sircar first supported Fleet's reading[4] but in his *JASL* revision, he accepts Bühler's reading as correct.[5] In the *NS* photograph, this letter is retouched to make a *va* but in the *JASL* plate it is a circle appended to a vertical line which extends into the circle, tending to bisect it (III. 9. i).

The letter *ja* is written in two ways in the Nagarjuni cave inscriptions. The first formation is something like two semi-circles opening to the right and placed one upon the other (I. 10. i). This is most common in Aśokan Brāhmī. The second variety is a cursive one formed in a single attempt of the pen, making three curves, the middle curve opening to the left (I. 10. ii). It is not possible to accept Upasak's view that this shape emerged owing to the carelessness of the engraver, who, when he 'failed to place the two semi-circles one upon another, joined them by a small curve'.[6] In our opinion such forms can emerge out of the writer's convenience.

1. Upasak, *op. cit.*, p. 61; and his chart following p. 318.
2. *Op. cit*, p. 262.
3. *Op. cit*, p. 522.
4. *SI*, p. 85.
5. *JASL*, *XVIII*, p. 2.
6. Upasak, *op. cit.*, p. 66.

Linguals

Only two linguals have been found used in the inscriptions assigned to this period *Tha* is a perfect circle in which *a* medial is attached to the right in the form of a small bar (II 11 i) and the *e* medial is a small bar to the left (I 11 i)

The letter *da* in Aśokan Brāhmi is represented with a horizontal line with two vertical strokes at either end, the left one pointing downwards and the right pointing upwards In the Mahasthan record *da* (II 12 i ii) is comparatively smaller in size like *ka* and *ga* In the Nagarjuni cave example this letter shows a cursive hand (I. 12 i)

Dentals

Among the dentals, all the five letters are found in these records The letter *ta* is written in several ways In the Piprahva and Ramgarh records, it is formed from a straight line to the middle of which another short stroke is added at an angle to the right pointing downwards In the Piprahva examples the main line is always slanting (IV. 13 i ii) and at one place it is not a straight line (IV 13 iii) On the contrary in the Ramgarh records the main line is strikingly perpendicular (V 13 ii v) Another variety of this letter is formed by appending an angle just below the vertical- ʌ -, as in the Mahasthan (II 13 i iii) the Sohgaura (III 13 i ii) and the Ramgarh hill cave (V 13 i-vi) records Another sub variety is formed when the angle is cursively drawn into a curve ʌ -, which can be found in the Nagarjuni cave (I 13 i) the Mahasthan (II. 13 iv) and the Sohgaura (III 13 iii) inscriptions A peculiar variation of this has been noticed in the Nagarjuni cave records where the left curve of the angle takes one more curve (I 13 ii) The Aśokan mode of adding medials is followed here The medial sign for *i* is cursive in some cases, as in the Mahasthan and Sohgaura examples and sometimes it is angular, as in the Piprahva and Ramgarh records

The letter *tha* is a circle with a dot in the middle. In the inscriptions of Daśaratha in the Nagarjuni caves, the writer seems careless (or helpless due to the tool used for writing ?) about the dot in the circle. In the letter *the* of the word '*Dasalathena*', there is an inclining projection inside the circle which may have been intended for a dot (I. 14. i), but in other places there is no dot at all. For example, there is no dot in the letter *thi* of the word *vaḍathikā* of the record of the third cave (I. 14. ii). In this letter the *u* medial is a short line appended to the bottom of the letter (III. 14. i).

The letter *da* is of the round variety (as opposed to the angled one) made up of a semi-circle, open on the left, with the addition of two short varticals at either end (II. 15. ii and V. 15. i). This could be written in a single movement (I. 15. i and IV. 15. i). Sometimes peculiar shapes also emerge when written hurriedly (I. 15. ii). In the Nagarjuni records this letter is attempted in a single stroke along with medial *i* (I. 15. iii-iv).

There is some dispute among scholars regarding the reading of the letter *da* of the second line in the Sohgaura plaque inscription (III. 15. iii). This has been read by Bühler as *ḍa*[1] which he thinks to be of Kalsi type.[2] But Sircar disagrees with this view and in his opinion 'it has no resemblance with the Kalsi *da* with rounded back'. On the contrary, he found 'in the original a clear *da* of Bhattiprolu type, that is to say, with the central curve open towards the right instead of the left'.[3] He further observes : 'As the other cases of *da* in this record is (*sic*) of the regular form, this reverted (*sic*) form is possibly to be attributed to the defect of the mould wherein the plaque was cast (cf the forms of the letters in the legend of the coin of Dharmapāla from Eran)'. In our opinion, there is no necessity

1. *IA*, XXV, 1896. p. 262.
2. Cf. Bühler's Chart, *Tafel* II, *column* III. 1. 20.
3. *JASL*, XVIII, 1952, p. 2.

of equating this form to any other form of *da* in any inscription If it could be understood to be a mistake in the preparation of the mould in which the plaque was cast, it may as well be assumed that this is a regular type of *da* with its opening towards the left and by mistake or negligence it was reversed There is no doubt that this epigraph is very carelessly prepared and many cases of careless formation of the individual letters—reversed letters and medials, omissions and later insertions—may be marked Besides this reversed *da*, we have already noticed a reversed *ko* in which the medial *ā* sign is placed at the top to the right and *e* sign is placed a little below the top to left like — ∓ The correct form can be obtained by simply reversing it — ∓ The same fault is repeated in the letter no III 17 iv too, which also can be reversed to the correct form without any deformation of the letter In the inscriptions of the following period we find two such examples, letter *so* in the Sanchi series I (IX 38 V) and the letter *ko* in the Sanchi Series II (X 7 ii) which are obviously mistakes. An example of reversed medial sign ɨ in the letter *hi* of line four of the Sohgaura plaque has also been noticed and will be discussed later [1] We can point out one example of later insertion of a letter also In the first line the last letter is a small sized *ka*, which is possibly a later insertion

The letter *dha* resembles the Roman capital letter D and is written in two strokes First a vertical straight line is drawn and then a semi circle that joins the lower and the upper ends with its curve to the right (IV 16 i ii)

The letter *na* is made of two straight lines A vertical line touches a horizontal one in the middle by its lower end— ⊥ . Usually both lines are approximately of equal length, but sometimes the vertical is longer than the horizontal one (IV 17 i & v) In the Piprahva record the vertical does not always touch the horizontal line at a right angle (IV 17 ii, iv & vi) Very rarely the vertical is shorter than the horizontal line

1 *Infra* p 38

(V. 17. i). In this letter the medial for long *ū* is shown by extending the vertical below the horizontal line and adding another stroke to the right end of the horizontal line pointing downwards– ऊ (V. 17. iii).

Labials

The letter *pa* is drawn like a fish-hook in which the right vertical is shorter (II. 18. i). But a tendency of equalising the verticals can be marked in some records (I. 18. i & V. 18. i) and this became a feature of the subsequent period. The *u* medial is shown through a short stroke attached to the bottom of the hook[1] (IV. 18. i & II. 18. iii) and the *i* medial is of usual Aśokan type (I. 18. i & II. 18. ii) written hurriedly.

The letter *pha* occurs as a conjunct in the Sitabenga cave inscription of Ramgarh hill which we will discuss later. This letter is formed simply by curving the right arm of the letter *pa* inside, as usual with the Aśokan *pha*.

There is only one type of letter *ba*, which is written like a rectangle (V. 19. i), and the *u* medial to it is the usual appended stroke at the bottom of the letter (IV. 19. i).

The letter *bha* has very often been regarded as one of the key letters for tracing the development of the script because it is very susceptible to change in current writing. In the Aśokan Brāhmī this letter is drawn by joining the tops of two short vertical lines by a horizontal one protruding to the right from which another short vertical shoots upwards— भ . This is the most common type of *bha* in the Aśokan inscriptions, and was retained in this period also (IV. 20. ii-iii). But sometimes upper and the lower verticals tend to form a straight line भ (IV. 20. i & V. 20. i). However, the Sitabenga *bha* in the Ramgarh hill

1. It is strange that Upasak notices *pi* instead of *pu* in the Piprahva vase inscription and illustrates a peculiar *i* medial to it— ि , which turns to the left at the upper end; C. S. Upasak, *op. cit.*, p.176.

inscription (V. 20. i) is somewhat cursive, and was incorrectly read by M. Boyer as *dha* [1] These are the two main varieties. Other variations are formed by individual mannerisms and personal habits of drawing one part of the letter first and the other afterwards As we notice in the Nagarjuni caves (I 20. i-iii), first a rounded *ga*-like formation is drawn and then the upper horizontal line is extended to the right and turned upwards in a single stroke. To add a long *ū* medial, first a horizontal bar is added to the right of the lower right vertical making a right angle and then another stroke bisects the angle— (V 20 ii) *Ā* (V. 20 i) and *i* (I 20 iii) medials are formed in the usual way though the *i* medial is a somewhat cursive one in the latter example

The letter *ma* is of only one variety, i e a complete circle with a crescent upon it (V 21. i). But in the Sohgaura inscription, the crescent is always detached from the circle (III 21 i-v) The medial sign for *ā* is a short bar added to the right arm of the crescent (II 21 i) and the medial for *e* is a short bar added to the left arm (III 21, iii). For the *o* medial short bars are added to both the arms (III. 21 iv)

Semi-Vowels

Dani[2] observes two basic forms of *ya*, the crescentic one and the segmented one The crescentic form of *ya* is made by drawing a vertical to the middle of the arc of a circle – . This we find in the Sohgaura (III 22 i-iii) and in the Nagarjuni cave (I 22 i-ii) inscriptions However, in later records there is a tendency towards shortening the middle vertical and equalising all the arms This tendency is met with in the Nagarjuni cave inscriptions. There is an angular variety of this basic form which we see in the Ramgarh inscriptions (V. 22 i-vi). This is sometimes called the wedge-shaped

1 *ASI(AR)*, 1903-4, p 124

2 Dani, *op cit*, p 42

variety. The second basic form is drawn by adding two small arcs, on either side of the base of the vertical— ⊥ (II. 22. i-iii and IV. 22. i-ii). In the case of the Piprahva vase inscription, the middle vertical of *ya* is not a straight line (IV. 22. ii), but this can be treated as an inaccuracy in the shape of the letter resulting from the different medium. The medial for *ā* (II. 22. ii, III. 22. ii and V. 22. ii), *i* (II. 22. iii, III. 22. iii and V. 22. iii), *e* (V. 22. iv), *o* (V. 22. v) and *aṁ* (V. 22. vi) are in the usual Aśokan fashion.

The letter *ra* is found only in the Ramgarh hill cave inscription and that is of the serpentine vertical type. The medial sign for *ā* is attached at the top of the letter (V. 23. i), while the *u* medial sign is added below not at the tip but a little above it (V. 23. ii).

The letter *la* is also of the usual Aśokan type, in which the left arm is shorter than the right one (II. 24. iii, III. 24. i-iii, IV. 24. i-iii and V. 24. ii-iv) but in some cases a tendency towards equalising the arms is marked (I. 24. i and V. 24. i). The medial sign for *ā*, *u*, *i*, *e* and *aṁ* are in the usual Aśokan style but in some cases of *i* medial a cursive hand is visible (I. 24, i & IV. 24. iii).

The formation of the letter *va* is a simple one, i. e a complete circle appended to a short vertical line. This letter is found used in all the records of this period selected for study. In the Sohgaura plaque inscription, the sixth letter of the second line is of disputed reading. What Bühler read as *vasagame*[1] (Sk. *vaṁśagrāme*), Fleet was inclined to read as *usagame*.[2] In *Select Inscriptions*, Sircar accepted the possibility of both readings.[3] But now, after examining the original plaque, he thinks it 'beyond doubt that the first of these four letters must

1. *IA*, XXV, 1896, p. 262.
2. *JRAS*, 1907, p. 522.
3. P. 85.

be read as *va* and cannot be *u*'[1] (III 25. ii) The same form of *va* can also be noticed in the Nagarjuni cave inscription (I 25 ii) One can see Buhler's chart (Tafel II IX 1 36) for this form of *va* The simple type of *va* is to be seen in the Nagarjuni cave, Sohgaura, Piprahva, Mahasthan and Ramgarh hill cave inscriptions

Sibilants and *Ha*

The Jogimara cave inscription at Ramgarh hill is written in the Māgadhi language and in its exclusive use of *sa*, is more closely connected with the Māgadhi of the grammarians than the Māgadhi of Aśoka [2] This type of *śa*, having the additional stroke in the left leg— ʌ , very rarely appears in the Aśokan inscriptions, e g , in the REK [3] The medial sign for *i* (V. 26 i) is a cursive one, and the sign for *e* (V 26 iii) is correctly attached To make the sign for *u* the right leg of the letter is slightly curved outwards (V. 26 ii) which is a tendency of the later ages

It is generally believed that in the Nagarjuni cave inscription of Dasaratha 'no dental *sa* is to be seen, as it is always replaced with the retroflex *sha*'.[4] R. P Chanda reads only *sha* in these inscriptions,[5] while D C Sircar arbitrarily reads both *sa* and *sha*. [6] Here it must be noticed that all these letters are of the same formation and they should be read either as *sa* or as *sha* [7] In the Mahasthan stone inscription we find both formations (II 27 i-vi), which in the Aśokan inscriptions could have been read as *sa* as well as *sha* C. C Dasgupta observes that this inscription 'shows for the first

1 *JASL*, XVIII 1952, p 2
2 *ASI* (*AR*), 1903 4, p 124
3 Upasak, *op cit* , App XXXVI (4)
4 Upasak, *op cit* , p 173
5 *M ASI* No 1, p 16
6 *SI*, pp 79–80
7 Cf pl I in *M ASI* No 1

time that in the Maurya period two forms of Brāhmī *sa* were prevalent—one which looks like the usual Aśokan *sa* and the other like an Aśokan *sha*.'[1] We agree with this explanation but with the slight amendment that the inscription should be dated to the late Mauryan period. Though there is a little difference in the formation of these two letters, there is a test from which one can judge which letter it was intended to be. Dani[2] and Upasak[3] both agree, though in different contexts, that if it is meant to be a *sa*, the *u* or *ū* medial should always be added to the primary hook— 𐨯 or 𐨯 , but if it is intended to be a *sha*, the *u* or *ū* medial should be attached to the secondary hook— 𐨯 or 𐨯 .[4] On this test, the *sha*-like formation must be *sa* for, we notice *su* in the Mahasthan inscription (II. 27. v) and *sū* in the Nagarjuni cave inscription (I. 27. ii) where the *u* and *ū* medials are attached to the primary hook. Thus there can be little doubt that these forms should be read only as *sa* and not *sha* as read by the earlier scholars. As both the records come from the same region, this confusion can be attributed to the peculiarities of regional pronunciation. In the Sohgaura plaque, the secondary hook of *sa* is added in a peculiar way (III. 27. ii-iii) and similarly in the Piprahva vase inscription, the second hook is a downward extension of the vertical (IV. 27. ii).

The letter *ha* is written like a reversed *la*. In some cases the bar at the right arm is at the tip of the vertical (II. 28. i & III. 28. i-ii) but sometimes it is a little below it as in the Sitabenga inscription of the Ramgarh hill, while in the Nagarjuni cave inscription of Dasaratha this horizontal bar is near the bottom of the letter (I. 28. i). In these two inscriptions, a tendency of equalisation of the arms is marked. The medial *i* sign in the

1. Dasgupta. C. C., *Ind. Cult.* Vol. III, p. 208 quoted in *The Development of Kharoṣṭhī Script*, p. 25.
2. Dani, *op. cit.*, pp. 55—56.
3. Upasak, *op. cit.*, p. 182.
4. *Ibid*, p. 110.

Mahasthan and the Nagarjuni records is cursive, but in the Sohgaura plaque it is particularly unusual (III 28 ii). This sign is attached in a reversed manner, opening its curve to the right Obviously this is a mistake in the preparation of the mould, but it is an interesting coincidence that in the Barli inscription the first letter, usually read as *vī*, also has the *i* medial curved to the right There it is read as long *ī* while in the Sohgaura plaque it is read as short *i*. If this reading of the Barli inscription is accepted as correct and if it could be applied to the Sohgaura instance also, the implications of this reading will be far greater. Firstly, then it should be read as *gahītavaya* instead of *gahitavaya* This reading is nearer to its Sanskrit original *grahītavyam* Secondly it will mean that in this inscription long vowels are also used, though their apparent absence has been used by the scholars in favour of this inscription being earlier. But such conjectures are hardly sound, as the reading of the first letter of Barli record has been doubted by Sircar[1] who is also supported by Dani,[2] and the date of this inscription on the palaeographic and other grounds has been brought down to the first century B. C We will discuss this inscription in the fourth chapter.

COMPOUND AKSHARAS

The conjuncts are used only, in the Ramgarh cave inscriptions. In the Jogimara cave of Ramgarh hill, we find the conjunct *kyi* written correctly with a cursive medial for *i* (V. 29 ii) But in the Sitabenga cave inscription, the conjunct ꣳ is read as *spha* by T Bloch,[3] the second letter *pha* being added to the secondary hook of the letter *sa* (V 29 i) The correct

1 *JBRS*, 1951, p 35 Sircar suggests a conjectural reading of this letter as *dva* which can not be accepted as *da* with an opening to the right is not the practice of this period except at Bhattiprolu

2 Dani, *op cit*, p 54

3 *ASI* (*AR*), 1303-4, p 124

form should have been like— . Dani,[1] however, doubts this reading of Bloch.[2]

The so-called conjuncts of the Sohgaura plaque inscription are very interesting. There are seven symbols at the top of this plaque which have variously been explained, but we are concerned here with only two symbols which have been sometimes read as conjuncts.[3] The first one is a usual crescent-on-hill symbol which is generally found on silver punch-marked coins. This sign is also found on the base of a Kumrahar pillar and on many other antiquities[4] believed to belong to the Mauryan period. Jayaswal reads it as the monogram of Chandragupta Maurya. He takes the top crescent (III. 29. i) as *Chandra* and the remaining hill-like combination for *gutta*; the upper loop for *ga* — ∩ and the two lower loops— ∩∩ for double *tta* making it *Chandragutta*. But here it may be pointed that while Jayaswal takes *gutta* as letters of the Brāhmī script he presumes that the crescent, a symbol, stands for Chandra, which is a peculiar combination of writing and is hard to agree with. Similarly there is another symbol which resembles the Brāhmī *ma* (III. 29. ii), the upper crescent being separated from the lower circle. The upper ends of this symbol are slightly thick, which leads Jayaswal to think it to be the monogram for *moriya*. But the hypothesis of Jayaswal seems conjectural and far-fetched, as this symbol occurs on Indian coins spread over a vast span of space and time.

Concluding Remarks

When we review the palaeography of the inscriptions selected for the study of this period, we find on the whole that

1. Dani, *op. cit.*, p. 55.
2. *ASI* (*AR*), 1903—4. p. 124.
3. Jayaswal, K. P., *EI*, XXII, p. 3.
4. *ASR*, 1912-13, p. 78, pl. XLIX: *JRASBL*, III (1937), *Num. Suppl.*, Pl. VII-3.

these are varied in nature and technique and we also notice much difference in the formation of the individual letters From the point of view of development, some are more advanced and cursive while others are more primitive and angular. The Piprahva vase record falls in the later category while the inscriptions of Dasaratha exhibit advanced tendencies or later characteristics more clearly than any other of the group The equalising tendency of the verticals in the letters *ha, la, pa* etc and the cursiveness resulting from the attempt to write the letters *ji* and *di* in a single stroke, as also the rounded forms of *bha* and *ga* should normally have been excellent pointers to the still later dating of this record But as the inscription bears the name of Dasaratha, the grandson and successor of Aśoka, we can only label these as features of the time or as indicators of future trends. The letters of the Sohgaura record have their own face because they are cast Similarly the inscriptions in the caves of the Ramgarh hill have a different look As we have discussed earlier, the Piprahva vase bears a peculiar angular face and the Mahasthan record is strikingly similar in appearance to some of the inscriptions of Aśoka But in spite of these differences, there is a unity of appearance and formation which links these inscriptions to a well defined period of time

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CHAPTER III

THE PERIOD OF EXPERIMENTS AND FOREIGN CONTACTS

(200 B.C to 100 B C)

The Background

The second century before the birth of Christ is important from the view point of our study for two things (i) the foreign influence was being felt more emphatically on the N W frontiers of India, and (ii) small native states emerged as the central authority of Magadha weakened Though the Śuṅgas tried to keep the inherited empire intact, very soon they were no better than the petty local states Independence gave the states authority to issue coins and experiments were being undertaken to improve the technique As a result, first came the cast coins The earliest cast coins are probably those uninscribed ones which come from Ayodhya,[1] Eran,[2] Kauśāmbī,[3] Mathura [4] etc The inscribed cast coins came later and next came the art of stamping from a die which Rapson observes to 'have been known at Taxila at an earlier period than elsewhere in India' [5] 'The earliest specimens are struck only on one side, and by a method peculiarly Indian, according to which the metal was stamped while in a semi-molten state, with the result that the impression of the die was left enclosed

1 Allan, *CCAI*, p lxxxix
2 *Ibid*, p xci
3 *Ibid*, p xcvi
4 Rapson, E J, *IC*, p 14
5 *Ibid*

in a deep incuse square'.[1] The coins minted by this method were found from Mathura,[2] Tripuri[3] and Pañchāla region[4] etc. The next stage in the development is the double die system.

The experiments were not only in the field of technique of coining but the revolutionary step was also taken of inscribing legends on them. Most probably, the inspiration for this was taken from the inscribed Greek coins.[5] The inscribed cast coins, assignable up to the end of the third century B.C., are found in an area extending from Taxila to Eran in Madhya Pradesh. The invasion of Northern India by the Yavanas during the first part of the second century B. C. is well known.[6] Therefore, the Greek inspiration, if not influence, on the earliest inscribed coinage of India cannot be denied. Though the technique of casting inscribed metal pieces[7] was not new in this period, the idea of inscribing the name of the ruler,city or guild on currency materialized for the first time; and experiments with the script in preparing moulds and incuse-stamps etc. were made. The superior craftmanship of the Indo-Greek coins is evident in the Taxila coins of Agathocles and Pantaleon. On the other hand, the Negama, Kāḍa and other cast coins are clearly poorer and sometimes defective also. The reversed lettering on the coin

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1. Rapson, E. J., *op. cit.* p. 14.
2. *Ibid.* p. 13.
3. *Ibid*, p. 14.
4. *Ibid.*
5. Cf. D. C. Sircar, *The Age of Imperial Unity*, p. 159; but he observes that 'even the earliest inscribed coins do not appear to be earlier than the Besnagar inscription of the end of the second century B. C.'; and thus he is inclined to attribute the inscribed coins not earlier than the first century B. C. But as it is clear from the accompanying tables VI and VII, the palaeography of some of the coin legends is earlier than the letter forms of the Besnagar inscription.
6. Narain, A. K., *IG*, pp. 82 ff. and other evidences discussed therein.
7. For example the Sohgaura plaque, already discussed in the previous chapter. May it be suggested that the Sohgaura plaque was also inspired by foreign influence ?

of Dharmapāla of Eran and the reversed *sa* in some Kāda coins are examples of defective lettering [1] These will be discussed in the present chapter

Among all inscribed coins, the Negama coins of Taxila are undoubtedly the earliest. Rapson is inclined to date the Negama coins 'as early as the beginning of the fourth century B C'[2] Buhler was in favour of placing them in the third century B C [3] and Cunningham attributes them to an early period of Greek rule '[4] These coins were found at Taxila along with the coins of Agathocles and Pantaleon,[5] a fact which helps the dating of these coins. A. K Narain dates the two kings in circa 180–165 B C and 185–175 B C respectively [6] Discussing the Negama coins, Allan observes that 'the epigraphy has been described (by Cunningham) as Aśokan, but when we see how closely the Brāhmī inscriptions of the coins of Agathocles resemble the Brāhmī of Aśoka, we realise how difficult it is to date these coins within fifty years I am inclined to put them in the first quarter of second century B C If any deduction is to be made from their absence from the well known hoard of coins of Taxila, Pantaleon and Agathocles it is that they are later than these Greek rulers and not earlier' [7] While agreeing, in general, with Allan in assigning these coins to the beginning of the second century B C, it is

1 C C Dasgupta *The Development of the Kharoṣṭhī Script*, p 24, points out that 'one out of the three Dojaka coins illustrated here (Allan *CCAI*, pl XXXI 4) has the Brāhmī legend in the reversed order But an examination of the plate reveals that his observation is not correct In the illustration the coin is shown upside down and therefore the legend is like ꣱ V T , this cannot be regarded as a reversed legend

2 *Op cit* pp 2 and 3

3 Buhler, G , *The Origin of Indian Brahma Alphabet*, p 48

4 Cunningham, A , *CAI*, p 65

5 *Ibid*

6 Narain A K *op cit*, p 181

7. Allan, *op cit* p cxxvii

not possible to accept these to belong to a later date than these Greek princes. These two Greek kings, who were almost contemporary, not only imitated the square shape but also the incuse-stamping of the local issues.[1] 'This was done only to maintain the continuity of the local currency, and proves the earlier date of the Negama coins'.[2] For this we can allow a period of fifteen to twenty-five years before it was imitated by the two Greek rulers, and thus the date of the Negama coins can be fixed to about 200 B. C. The similarity of the letter *ja* in the legend *dojaka* of the Negama coins on the one hand and in the coin legends of Agathocles and Pantaleon on the othre does not allow much gap between the two.

Rapson assigned some Persian and Indian coins, countermarked with Brāhmī letters, to the fourth or fifth century B.C. on the evidence of the original coins.[3] But Dani observes that 'the date of countermarking must be later than the time when these issues were current, as this practice is limited to a few coins and not to be seen at any later time. This fact makes the date considerably later than that given by Rapson'.[4] The letter forms on these coins also point to a later date, since they roughly correspond with those of the coins of Agathocles and Pantaleon.

The coin legends which have been selected for the study of the palaeography of second century B.C. are as follows : Coins of Agathocles[5] and Pantaleon,[6] the coins of Dharmapāla,[7] the Negama coins,[8] the coins bearing the legends *udehaki*,[9]

1. Rapson, *IC*, p. 14.
2. Dani, *IP*, p. 60.
3. Rapson, *JRAS*, 1895, pp. 865 ff.
4. Dani, *op. cit.*, p. 60.
5. Lahiri, A. N., *Corpus of Indo-Greek Coins*, pl. II. 9.
6. *Ibid*, pl. XXVII. 11
7. Allan, *op. cit.*, pl. XVIII. 6.
8. *Ibid*, pl. XXXI. 1. 2. 6, 7.
9. *Ibid*, pl. XXXV. 16.

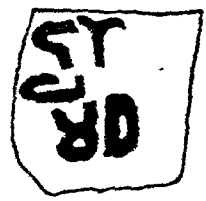
upagodasa,[1] *upatikyā*,[2] *vatasvaka*,[3] *kādasa*,[4] *eraka (nya)*[5] *tipuri*[6] and the countermarkings with the Brāhmī letters on the Persian and Indian coins [7]

Though the palaeography of the coins is not very reliable because of their short legends,[8] we have endeavoured to put them within chronological limits which should not be taken rigidly.

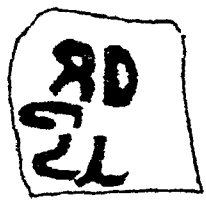
To the last quarter of the second century B.C can be assigned the inscription engraved on the well-known Garuda pillar at Besnagar caused to be inscribed by Heliodorus, who was sent as an envoy by the Indo Greek king Antialikidas (115-100 B C)[9] of Taxila, to the court of Bhāgabhadra, in the fourteenth year of the latter's reign [10] It is not easy to accept this Bhāgabhadra to be Bhāga or Bhagavata, the ninth Sunga king, because none of the Śunga kings are known to have used metronymics as did Bhāgabhadra, who is called *Kāsīputra* or *Kosiputra* (Kautsiputra), although the use of metronymics was common during this period all over India [11] And secondly, under the contemporary political situations of northern India, it is not likely that the Śungas held sway over Vidiśā during the

1 *Ibid*, pl XXXV 18
2 *Ibid*, pl XXXV 19
3 *Ibid*, pl XXXIX 2
4 *Ibid*, pl XIX 15, 17-18
5 *JRAS*, 1900, pl VII 7
6 Allan, *op cit*, pl XXXV 14
7 *JRAS*, 1895, pl I 1, 2–5, 6, 15–16, 17, 13–14
8 Cf Dani, *IP*, p 62 We have preferred to attribute the unreliability of palaeography of coin legends only to the brevity of the latter because we do not fully subscribe to the view that 'conservatism dies hard in coinage This may be true of coin legends after the first century A D but the period with which we are concerned here was one of experimentation in scripts, when new forms were being invented We shall discuss this further in the next chapter
9 Narain, *IG*, p 161
10 Sircar, *SI*, p 90
11 Narain, *op cit*, p 119, fn 8

later half of the second century B. C. They must have been forced to content themselves with the territory of Kośala and Magadha. It is also a waste of labour to identify the *mitra*-ending named kings of Pāñchāla with the Śuṅgas. There is considerable weight in Narain's suggestion that Bhāgabhadra was a local king.[1] It is not possible, however, to identify him with the king Bhāgavata mentioned in another Garuḍa pillar inscription found at Besnagar[2] inscribed in his twelfth regnal year. The palaeography of this latter inscription[3] is later than that of the Ghosundi inscription assigned to the first century B. C. A general comparison of the inscriptions of Heliodorus and Bhāgavata will reveal that there is no palaeographical similarity between the two which should otherwise be expected, if we agree with the identification,[4] since the inscriptions there will have to be accepted to have been issued within two years.



A



B

The Eran coin of Dharmapala. Fig. A shows the reversed legend made due to the defective die. In Fig. B the legend is shown mirror-wise as it should be. Here all the letters of the legend *Dhamapālasa* are in their correct shape and order.

General Observations

As we have observed in the previous chapter, casting errors sometimes reverse the forms of the letters. Such errors on the coins have created

1. *Op. cit.* p. 119.
2. *Mem. ASI*, No. 5, p. 152.
3. *Ibid.* pl. XXVI. a.
4. Narain, *op. cit.*, p. 119.

much confusion The reverse legend of the coin of Dharmapāla led Buhler to formulate the hypothesis that Brahmi was first written from right to left [1] It was obviously a casting mistake and it is strange that these scholars read the reversed letters correctly but did not recognize (or emphasize ?) this fact For example a reversed *pa* of Brāhmi looks something like a Brahmi letter *le* and a *la* looks like a *ha* If read correctly from right to left this legend[2] will read as *dhamalehasa*, if we ignore the peculiarity of *dha*, *ma* and *sa*

The mistakes of the Sohgaura plaque have been repeated in the cast coins also The *o* medial to the letter *do* of *dojaka* has been wrongly put the *ā* medial being attached to the top and the *e* medial slightly below the top— ʔ Similarly letter *sa* on two Kuda coins has not only been reversed but also put up side down like— ʔ instead of ʔ

The palaeography of this period found on the coins and the inscription of Heliodorus faintly suggests the developments which were to take place in the coming period The angularity in the letters *da* *ma*, *va*, *la* and *ha* etc the rounded top of *ga*, the equalising tendency of the verticals of *pa*, *ha* *sa* and *ya* etc and the straight lined *o* medial are some such indications

VOWELS

To begin with the *svaras* we come across only *a*, *i*, *u* *e* and *o* In the Besnagar inscription, two arms of *a* meet the vertical at two points (VI 1 i ii) and on the reverse of one of the Negama coins also we find this (VII 1 i) But on the coin of Agathocles, the two arms of *a* meet at the same point and the vertical also seems to be somewhat inclined (VII 1 ii)

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1 Buhler *IP* p 23 It is unfortunate that scholars like Buhler discussed here the shapes of the letters *sa* *dha* and *ma* but ignored the reversed shapes of *pa* and *la*

2 Allan *op cit* p 140

The letter *i* is the usual three dots with its supposed apex to the right (VI. 2. i). The letters *u* (VI. 3. i, VII. 3. i), *e* (VII. 4. i) and *a* (VI. 5. i) are the usual Aśokan type.

CONSONANTS

SIMPLE AKSHARAS

Gutturals

As in the preceding period, the letter *ka* is a simple cross. In the Besnagar inscription, the vertical is somewhat longer than the horizontal, but on the coins both lines are almost equal. The medial signs for *ā* (VI. 6. i, VII. 6. ii), *i* (VI. 6. ii, VII. 6. iii) and *o* (VI. 6. iv) are correctly attached. In the letter *kha*, the hook and the circle are separated by a gap (VII. 7. i.).[1] The letter *ga* is angular in the inscription of Heliodorus (VI. 8. i) but on the coins we notice rounded tops also (VII. 8. ii). The medial sign for *o* is a straight line at the top of the letter *go* on the coin legend *upagodasa* (VII. 8. iii) while we see a curious *o* medial attached to the letter *ga* in a counter-mark illustrated by Rapson.[2] In a rounded top *ga*, two right and left medials are added which are curved and pointing upwards (VII. 8. iv).

Palatals

There is nothing noteworthy in the letter *cha*, which is of the usual Aśokan type. While written cursively angular *cha* can also be noticed (VI. 9. i). It seems that the rounded double curved *ja* was the normal practice of northern India since the time of Aśoka,[3] and continues upto this period. Written in cursive hand, it makes a loop in the middle— ६ (VI. 10. i). Probably this loop was taken to be important because we see

1. Rapson, *JRAS*, 1895, pl. 1.6.
2. *Ibid*, pl. 1.17
3. Dani, *op. cit.* p. 39.

it emphasized in many ways. At one place in the Besnagar inscription, it is shown in the middle of a single curve in the form of another small curve joined by a small bar— ɛ (VI 10 ii). We do not find any such example in the later period On the coins of Agathocles and Pantaleon and on the Negama-Dojaka coins, this loop is emphasised in another way— ɛ (VII 10. ii). The similarity of this letter in the coins of the Greek princes and the Negama coins does not allow us to imagine much of a gap between them. The angular variety of *ja* (VII 10 i) was also optionally used during this period, and, in the first century A D became the most common type on the coins The letter *ña* is of the usual Aśokan style (VI. 11 i)

Linguals

There is nothing unusual in the letters *ta* (VII 12 i) and *tha* (VI 13 i) except the cursive *i* medial in the latter The letter *da* is more cursive in the coin legend (VII 14 i), than in the Besnagar inscription (VI 14 i) The letter *na* also retains the shape of the preceding period (VI 15 i)

Dentals

The dentals are represented by all the five letters. The letter *ta* retains both the main types discussed in the previous chapter The first was formed by appending a short line to an inclined straight line This may be written in two ways— ʎ and — ʎ Both these varieties are traceable here (VI 16 iii and VII 16 iii) The second main type is written by appending an angle to a vertical line— ʎ (VI 16 i, VII 16. ii) The ā medial is not always a horizontal stroke. Sometimes it is in the shape of a slanting stroke which becomes a regular feature of the later period

A circle with a dot in the middle is the shape of the letter *tha* which retains its older form (VII 17 i) But the letter *da* is found written in the angular (VII 18. ii) as well as in the cursive (VI 18 i–v) manner The medials for *i* (VI 18

ii), *e* (VII. 18. ii), *ū* (VI. 18. iii) and *o* (VI. 18. v) are attached in the correct way. But, as mentioned above, the *o* medial in *do* of the *dojaka* cast coins is wrongly added (VII. 18. iii) which is obviously a casting mistake.

The letter *dha* on the coin of Dharmapāla of Eran is reversed because of a casting mistake (VII. 19. ii) and therefore it should be read in the corrected form (VII. 19. i). In the Besnagar epigraph, this letter is somewhat angular (VI. 19. i). The letter *na* also retains the previous form but its vertical is becoming shorter. The *e* and *ā* medials (VI. 20. iv and VII. 20.ii) are optionally slanting.

Labials

Only *pa, bha* and *ma* are represented in the epigraph, and the coin legends selected for the study of this period. The letter *pa* is optionally archaic on the coins (VII. 21. i) but in the Besnagar inscription both the verticals of *pa* tend towards equalization. Similar is the case of the letter *ma* which retains a perfect circle on the coins (VII. 23. i) but in the epigraph the perfection of the circle was not maintained (VI, 23. i–iii). In this the germs of the angular variety of *ma* of the later period can be marked.

Semi-vowels

Though in the majority of cases the letter *ya* is of the older type, we can notice some letters with equalised verticals (VI. 24. ii, VII. 24. i) which is a characteristic of the later period. The double crescent type *ya* is not found except in one coin where it is used as a conjunct with *ka* (VII. 30. ii). The mode of adding *o* medial to this letter is also most modern for the period under discussion, i. e., a horizontal stroke extending to the right and left side of the middle vertical. This becomes the most acceptable feature in the later period. In the Besnagar example of *yo* (VI. 24. iii), the strokes on both sides are noticeably separated, but the countermark Brāhmī

letter *yo* on a Persian coin[1] has a single straight line for the medial (VII 24 iii)

The serpentine vertical form of *ra*, described by Buhler as the cork-screw type, seems to be the most popular (VI 25 i, iv, & VII 25 i). This type of *ra* is found in the Sitabenga cave inscription of the Ramgarh hills, already discussed in the previous chapter In the *Erakanya* coin published by Rapson,[2] *ra* has a peculiar shape with double curves placed one over the other (VII 25 ii) This form of *ra*, we also find used in a pavement slab inscription of Sāñchī Stūpa I discussed in the next chapter (IX 32 iii) but never again In the Besnagar epigraph, an optional curved form of the straight vertical is also to be seen (VI 25. ii). In the Tripuri coin, *ra* with *i* medial looks like a *da* because the *i* medial is as long as the main letter (VII 25 iii) On the basis of palaeography, this coin can be assigned to towards the end of this century

The letter *la* in the Besnagar inscription tends to become wider and more angular, while on the coins the older form continues (VII 26 i-ii) Similarly *va* also continues its perfect circle on the coins (VII 27 i) but at Besnagar, it is not as perfect (VI. 27 i-ii) Though nothing definite can be derived from the shapes of *va* at Besnagar, we can see the germs of the angular *va* of the centuries to come.

Sibilants and *Ha*

Among the records of this period, we find only dental *sa* in use. Smith[3] prefers to read the letter *sa* on the coin of Pantaleon as *sha* because this letter (VII. 28. iii) resembles Aśokan *sha*. But as we have discussed in the previous chapter[4] this may be another form of *sa* We can notice the equalising

1 Rapson, *IC*, pl I 4
2 *JRAS*, 1900, pl VII 7
3. *IMC*, p 10
4 *Supra*, pp 36-37

tendency of the verticals of *sa* (VI. 28, i-iii & VII. 28. i). In some *kāḍasa* coins, the letter *sa* is not only reversed but also put upside down (VII. 28, ii), which is a casting mistake. The medial signs for *i* and *ī* (VI. 28. ii-iii) are cursive and conventional.

The letter *ha* in the Besnagar epigraph has an angular formation, the left vertical becoming shorter while the right one becomes longer (VI. 29. i-ii). But in the *udchaki* coin legend, this letter has almost equal verticals while retaining its archaic look (VII. 29. i) and, therefore, it can be dated in the last quarter of the second century B.C.[1]

COMPOUND AKSHARAS

Groups with initial guttural

On the coins, we have two compound letters with *ka* as the initial letter. These are *kla* and *kyā* (VII. 30. i & ii). Incidentally, in both the conjuncts, all letters have verticals. Therefore, a single vertical has been used for both the letters, following the established rule since the time of Aśoka that the letter pronounced first will occupy the upper position and the next will be in the lower one. In the conjunct *kla*, the right vertical of *la*, which is usually the longer one, serves as a vertical for *ka* also; and in the conjunct *kyā*, the middle vertical of *ya* takes this position. In both cases, the conjuncts are so adjusted as not to take more space than an average letter.

In the Besnagar inscription we find a conjunct with double *kha*. To form this letter, a normal *kha* is made and then a stroke to the left is attached slightly above the circle like— ꣡ (VI. 30. i). Probably this downward stroke is meant to be the other *kha*.[2] R. P. Chanda remarks that 'the double consonant, *khkha*, is remarkable. In literary Prākrits an aspirate

1. Allan, *op. cit.*, p. cxli.
2. Cf. Sircar *SI*, p. 90; *Mem. ASI*, No. 1, p. 16 for the reading of the word *Takhkhasilākena*.

is doubled by prefixing the nonaspirated sound as *kkha*'.[1] Probably he wants to suggest that the downward stroke represents *ka*, which, however, is doubtful The angularity of the hook of *kha* and the elongated circle is noteworthy in this compound letter

Groups with initial Dental

The compound letters are found made with the initial *ta* and *dha* So far as the group with initial *ta* is concerned we find the conjunct *trā* (VI 30. iii) To the right leg of *ta* the serpentine *ra* is added The next compound letter *dhva* (VI 30 ii) is formed by extending the vertical of *dha* downwards and then appending a circle to it These conjuncts are in accordance with the rule.

Groups with initial Labial

The compound letter of this group is *pra* (VI 30 iv) formed by appending a serpentine *ra* to the bottom of letter *pa* The equalised verticals of *pa* are remarkable

Groups with initial Sibilant

The compound letters found with initial *sa* are only in conjunction with *va* This we find in the coin legends as well as in the Besnagar inscription At Besnagar, the letter *va* is appended to the right hook of the letter *sa* (VI. 30. v), while on the *vatasvaka* coin, *va* is attached in the alignment of the main vertical of *sa* (VII 30 iii)

Concluding Remarks

We need not emphasize the fact that the palaeography of coins is doubtful and we should not give too much importance to it. But it has been the tragedy of Indian archaeology that 'the basic chronology of the north Indian excavations of the early historic period is founded on triple evidence—(i) the date

1 *Mem ASI*, No 1, p 16, fn 1

of N.B.P. Ware; (ii) the occurrence of punch-marked coins and (iii) the palaeography of the letters appearing on coins and seals. In general the excavator falls back on coins to date his N.B.P.; and the numismatist has been repeating the words of John Allan on the date of palaeography as if Allan's statements are final. But the palaeography of coin legends can not be reduced to a definite chronological boundary'.[1] However, it has been said about Allan that 'no systematic attempt was made by him to analyse the letters, and when no other evidence was available he fell back on the style of writing'.[2] We have already noted the characteristics traceable in the records of this period which became the regular features, in a modified form, of the subsequent century. We feel no necessity of repeating them here again. The small and scanty nature of the material available in this period, except the Besnagar one, prevents us from having the many types and varieties which we could have had otherwise.

A new approach has been made here to study the palaeography of the coin legends in the cultural context. In the second century B. C. the north western frontier of India was primarily affected by the cultural and political contacts with the foreign invaders who tried to settle down on Indian soil and influenced the local culture considerably. Several experiments were undertaken by the indigenous people in the field of coin technology but we see that in the subsequent centuries foreign methods were accepted in this field. Greek palaeography influenced the palaeography of the Brāhmi script. Brāhmi letters tended to take shapes nearer to the Greek letters. Greek letters were almost equal in length and breadth and looked more beautiful in the limited space on the borders of the coins. They were convenient too. This quality of the Greek letters influenced the Brāhmi *aksharas*, whose verticals started being reduced on coins. These experiments continued in the next century also

1. Dani, *JNSI*, vol. XXII, p. 1.
2. Dani., *IP*, p. 59.

till Brāhmi acquired a new look by the beginning of the first century A D But this is not the only contribution of this period The legends engraved on the coins, as compared to the inscriptions on stone made the script easily accessible to the people This contributed much towards the diffusion of the knowledge of the writing. We have reserved this for discussion in the next chapter

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II. Besnagar Inscription of Heliodorus

1. *ASI* (*AR*) 1908-9

2 *Mem ASI* No 1, pl II

CHAPTER IV

THE PERIOD OF DIFFUSION

(Ist Century B. C.)

The period of experiments with the Brāhmī script did not end with the end of second century B. C. ; rather it continued, on a bigger scale, in the first century B. C. also. The main impulse to this accelerated development came with the attempt to make Brāhmī more and more convenient for the coin legends where the space is very limited. For this, Greek coins and Greek script served as model. The regions which were nearest and therefore in closest contact with the Greeks were inspired more emphatically to a rapid change. For example, in the lettering on the earliest Yaudheya coins bearing the legend *yaudheyānāṁ bahudhānake*,[1] an attempt is made to resemble the lettering on the Greek coins. A perfection in this kind of imitation was achieved by the Kuṇindas, especially in the coins of Amoghabhūti.[2] The coins thus served as pioneers in the field of script style at least in this period, and it is not reasonable to hold the view that the coins are conservative in this respect.[3] This is true for the Brāhmī script at least up to the period of the Śaka Kshatrapas of Mathura. A comparison of Table VIII of the coin Series No. II (1st century B. C.) with the inscriptions assignable to the first

1. Allan, *CCAI*, pl. XXXIX.
2. *Ibid*, pl. XXII.
3. Cf. Dani, *IP*, p. 62.

century B C (Tables IX-XIV) and the Table XV of the coin Series No III with the inscriptions assigned to the early first century A D, will reveal that the letters on the coins are more advanced and modern than the script on the stone

But this is not the only contribution of the use of script on coins As we have said in the previous chapter, the script reached the people more easily and more frequently through coins As a consequence more and more people must have become interested in the mysterious and powerful art of writing. Once more religion came forward as a help. Though the Ghosundi and Bhilsa inscriptions are associated with royal names, their theme is popular, that is to say, religious The reconstruction and enlargement of the great stūpas at Sāñchi and Bhārhut were in progress in this period and the enthusiastic *upāsakas* as well as *bhikshus* took an active part in this and gave donations towards it Besides their religious zeal, the temptation to have their names engraved on such colossal monuments, contributed much towards the completion of these stūpas It is not easy to imagine what percentage of the donors was illiterate and how many learnt the script to enjoy the thrill of reading their own names Undoubtedly this was a great achievement towards the popularisation of script

On the grounds of palaeographic development we have assigned the early inscriptions of the Sāñchi (Tables IX & X) and Bhārhut stūpas (Table XI) to the first century B C This is not in agreement with the general belief that the railings on these stūpas were made during the time of the Śungas There is, however, no evidence for the latter except the palaeography, which has been used by Indian archaeologists as a rubber tape to extend or contract at convenience The mention of the Śungas on the eastern gateway at Bhārhut also does not really help us much on this point Palaeographically this inscription can be assigned to the beginning of the first century A D

In support of our scheme of chronology we will first quote

R. P. Chanda and then give our arguments based purely on the palaeographic observations. He[1] writes :—

"...the Brāhmī inscriptions from the third century B.C. to the second century A. D. may be chronologically arranged in the following order :

1. Edicts of Aśoka.
2. Nāgārjunī Hill cave inscriptions of Aśoka's grandson Daśaratha.
3. Besnagar Garuḍa pillar inscriptions (sic).
4. (a) Inscriptions on the railings of Stūpa I at Sāñchi.
   (b) Inscriptions on the railings of Stūpa II at Sāñchi
   (c) Bhārhut railing inscriptions.
   (d) Inscriptions on the remnants of the old Bodh Gayā railing.
5. (a) Besnagar Garuḍa pillar inscription of the year 12 after the installation of *mahārāja* Bhāgavata.
   (b) Inscriptions of Nāyanikā, widow of the Āndhra king Sātakarṇi I in the Nānāghāt cave.
   (c) Bhārhut *toraṇa* (gateway) inscription.
6. Hāthigumphā inscription of Khāravela, king of Kaliṅga.
7. Sāñchi *toraṇa* inscriptions.
8. Inscriptions of the time of Śoḍāsa.
9. Inscriptions of Kanishka.,

Palaeography was undoubtedly the basis for the above arrangement by Chanda, although he does not try to date these groups individually. However he quotes in his support the authority of Sir John Marshall who follows the same chronological arrangement in his study of the development of early

1. *Mem. ASI*, No. 1, pp. 14-15.

Indian art Marshall's testimony, in the words of Chanda, runs as follows ·

> 'The sculpture on the railing of the Bhārhut stupa he (Marshall) assigns to the middle of the second century B C., and those on the gateway to a later date, the original sculptures on the ground rail of Stupa II at Sāñchi to about the same time, the railing of Bodh Gayā to the earlier years of the first century B C , the sculptures in the Māñchapuri Caves at Udayagiri, in the upper storey of which the inscription of Kharavela's queen is incised, to a date considerably posterior to the sculptures of Bhārhut, the reliefs on the four gateways of Sāñchi to the latter half of the first century B C. and the sculptures of the time of the Saka Satraps of Mathura to about the beginning of or a little before, the Christian era. [1]

Chanda's reference is obviously to Marshall's chapter on 'The Monuments of Ancient India' in *The Cambridge History of India*, Vol I Marshall may be produced in support to the extent that within a known historic framework and with generic relationship assumed, it should be possible to arrange different manifestations of art or art styles into a tentative relative chronology But, for more precise and absolute chronology, the evidence of dated inscriptions and consequently of palaeography will have to be considered Marshall himself does not appear to dispense with them only, in his short account of ancient Indian monuments, he generally takes them for granted However, whether or not Chanda is fully justified in bringing Marshall to his support, we agree in general outline with the two authors and, on that basis offer the following review of the chronology of the inscriptions of this period.

As regards the edicts of Aśoka and the Nāgārjuni cave inscriptions of Daśaratha, there is no dispute about their dating

1 *Op cit*, p 15

in the third century B.C. Next in order comes the Besnagar Garuḍa pillar inscription of Heliodorus. Its date must be that of Antialcidas, whom he represented in the court of Bhāgabhadra, the son of *Kosī* or *Kauśī*. A. K. Narain assigns him a reign of 15 years towards the end of the second century B.C., i. e., circa 115 B.C. to 100 B.C.[1] We agree with this dating which can not be pushed back too much to effect our scheme.

In the next group Chanda mentions four sets of inscriptions; inscriptions on the railings of Stūpa I at Sāñchī, those on the railings of Stūpa II at Sāñchi, the Bhārhut railing inscriptions, and the inscriptions on the remnants of the old Bodh Gayā railing. Obviously these should find place in the first century B C. except the Bodh Gayā one. The triangular forms of the letters *ma* and *va*, the equalised verticals of *pa* and *sa*, and the use of long tailed *i* medial are some of the features which do not fit with the other sets of inscriptions and point towards the subsequent period, i. e. the first century A.D.[2]

We have grouped the inscriptions of Sāñchī, assignable to the first century B.C., into two series. In the first are included the majority of inscriptions incised on the railings of Stūpa I and the inscriptions scratched on the caskets found in Stūpa III. The palaeography of this series is closer to that of the Besnagar inscription of Heliodorus, but there are some features such as the straight vertical of *bha* and a single horizontal line for the *o* medial, which are pointers to further development. Series II of Sāñchī includes mostly the inscriptions engraved on the railings and those scratched on the relic caskets from Stūpa II. The inscriptions on the railings, on both the stūpas, show a variety of hands, while those on the caskets exhibit unity. The rounded *ga*, double looped *chha*, a single horizontal line for the *o* medial, and the marked angularity of most of the letters definitely indicate the posteriority of the second series.

1. *IG*, p. 181.
2. See *Infra*, Chapter V.

The inscriptions on the caskets are more advanced because of the reduced verticals, angularity, *i* medials, and especially the mode of adding the *u* medials to the letters *sa* and *pa* by extending the right vertical downwards These are the features which gave a new style to Brāhmī when written by the new pen, introduced in the first century A D Thus there seems no difficulty in assigning series II to the later half of the first century B C and Series I to the earlier half. The railing inscriptions of Bhārhut, Series I, are also to be placed in the later half of this century on the grounds of palaeography

The fifth group of Chanda can be assigned to the close of the first century B C. To this group may be added the inscriptions found at Ghosundi and Barli In this group of inscriptions we mark a tendency to create letters in a way which was responsible for the new pen style of the first century A D Attempt to equalise and angularise the verticals of *pa*, *sa*, *ha*, etc , the tendency of transforming the oval of *ma*, *va* and *kha* into a triangle, and the way in which medials for *u* and *i* are attached are some traits of this period from which the new pen style was inspired The casket inscriptions of Stūpa II at Sāñchī may also be noticed for these features.

His sixth, seventh and eighth groups are assignable in the first century A D and therefore will be considered in the next chapter The Kushāna inscriptions beginning from the last quarter of the first century A D are discussed in the subsequent chapter.

The first century B C is comparatively rich in palaeographic material from the numismatic sources It is not possible to agree with D. C Sircar that the earliest inscribed coins do not appear to be earlier than the Besnagar inscription of the end of the second century B C.,[1] because 'the fashion of mentioning the name of the ruling authority in the coin legend was inspired and popularised in India by foreign kings beginn-

1. *Age of Imperial Unity*, p 159.

ing with the Indo-Greeks'. We have already shown, there are some coin legends which can be assigned to the second century B.C. on palaeographic grounds.[1] A palaeographical analysis shows that the coin legends which can be attributed to the first century B.C. are —

1. The coins of the Ārjunāyanas bearing the legend *ārjunāyanānāṁ jaya.*
2. The legends on the coins attributed to Kanauj by Allan.
3. Early Kauśāmbi coins.
4. Mathura local coins.
5. Coins of Rājanya and Trakata *Janapadas.*
6. Early Yaudheya coins.
7. Coins of the Śibi *janapada.*
8. Mālava coins bearing the legends *mālavānāṁ jaya* and *senāpatis vachhaghosa.*

Our table VIII represents characteristic letter forms taken from the photographs of the coins published mainly in Allan's *CCAI* and the volumes of *JNSI.* The majority of the plates in the volumes of *JNSI* are not clear enough and most of the readings cannot be verified from the photographs. We have had to depend, therefore, mainly on the excellent plates of Allan's book though a good deal of new Kauśāmbi and Pañchāla coins of this period have come to light since the *CCAI* was published by the British Museum in 1936. These new coins were mostly published in *JNSI* which we could not use with satisfaction. However, an explanation of the letters illustrated can be found in the 'Explanation Table' of Table VIII.

This century is also marked by the use of inscribed seals, as far as we have for the first time since the Indus

1. *Supra*, pp. 45 ff.

civilization The seals are personal as well as official Some of the seals which can be attributed to the first century B C on the basis of palaeography are those bearing the legends *Vasubhuti*,[1] *mālava janapadasa*,[2] *sahijitiya nigameśa*,[3] etc Regarding the dating of the seals, and sometimes also of the coins, it has become general fashion to date letterings which are not clearly Śaka or Kushāna, to the third second century B C This convention can be seen in any article dealing with the inscribed coins or seals

We are not interested in building our thesis on the criticism of the datings of the past scholars, but we may select a few instances for illustrations In *JNSI* volume XXIV (1962) pp. 193 94, R C Agrawala describes and dates some seals and coins found in the excavations at Rairh, most of which are illustrated in K N. Puri's *Excavations at Rairh* plate XXVI Nos. 19-24 According to Agrawala, the earliest seal in this group is a tiny seal impression in relief on a half cut terracotta ball with No R 3096, pl XXVI/19 only two letters *mi* and *di* in 3rd-2nd century B C Brahmi script. But the letter *da* of this seal opens to the right, as we find in the inscriptions of the first century A D and afterwards To the second century B C he assigns the seals with the legends *mā'ava janapada* (22), *vasubhuti*(21), *sarvadatas*(20) and *vachhusatiyagopa* (*l ?*) *ya* (24) The letters *la*, *pa*, and *sa* of the legend *māl va jinapada* are angular and in our opinion may belong to the end of the first century B C Here it is interesting to note that the letters *la* and *sa* of the second line of this seal are written upside down as if to be read after turning the seal round The oval shape of *va*, the equalising verticals of *si*, the double looped *chha*, the angular *pa*, etc are some features of remaining two seals which are characteristics of the first century B C Another example of such loose dating is that of *nigameśi* seal from Bhita which is

1 *Excavations at Rairh*, plate XXVI, 21

2 *Ibid* XXVI, 22

3 *ASI(AR)*, pp 11 12, pl XVII

dated in circa third century B.C.[1] Such instances can be multiplied but here we only want to emphasize that sometimes the dating of the seals is done loosely, without considering their palaeography seriously.

With these primary remarks about the records selected for the study of the palaeography of this period, we are now in a position to deal with the formation of individual letters and, as far as possible, to point out their relationship with the preceding and succeeding ones. We will also try to trace the development that took place within the century.

VOWELS

Beginning with the vowels, one finds that although there are two varieties of the letter *a*, i. e., (i) both the arms meeting at one point and then joining the vertical (VIII. 1. i; X. 1. i; XI. 1. i) and (ii) with a gap between the arms (IX. 1. i; X. 1. ii; XI. 1. ii); the latter variety has been used in majority of the cases. In the votive inscriptions of Sāñchī this form has been used as a rule and has been called 'the standard monumental form of the letter'.[2] In the Sāñchī pillar inscription of Aśoka and in the Besnagar pillar inscription of Heliodorus (VI. 1. i, ii) only this form appears, and becomes a characteristic feature of post-Aśokan writing. At Bhārhut this from is noticed in quite a large number of cases, but the first variety also persists there.

The letter *i* continues its older form of three dots; generally the apex being to the right (IX. 2. i, XI. 2. i, ii), though sometime also at the top (X. 2. i). Similarly the letter *e* also continues its simple angular shape written with a varying degree of cursiveness (VIII. 3. i. IX. 3. i, X. 3. i. and XI. 3. i). At Bhārhut Series I for the first time we find long *ā* (XI. 4. i). This letter is formed by adding one bar to

1. *ASI(AR)*, pp. 11-12, pl. XVII.
2. Majumdar, N. G., *MS*, p. 265.

the middle of the vertical of the angle like Upasak opines that this shows a combination of two *u*s 1 e We do not find much change in the shape of *e* Though in the Sañchī Series I, it retains its triangular shape with its apex at right (IX 5 1), we notice that at Bhārhut its angular apex at the right tends to be curved (XI 5 1) Though the letter *o* is used in several Aśokan edicts, it occurs for the first time among the post-Aśokan records at Sāñchī I (IX, 6 1) It is formed simply by adding a horizontal stroke to the sign of *u*, . Upasak notices here the rule of *guna* combination applied According to this rule *o* is composed of *ā*+*u* He applies this to the symbols also and observes that 'the medial sign for *a* is a small horizontal dash (—) and when it is added the sign *u*, , it becomes *o*, [2]. But this is not acceptable because, firstly, a dash to the left of the letter is the sign for the medial *e* and not for *a* and, secondly it is not possible to apply the Sanskrit grammetical rules to the signs of the Brāhmī letters [3] He also puts forward the argument that the letter took this shape to avoid letter *na*, this argument also is not convincing because we do not find examples of *na* until much later,[4] when Sanskrit began to be used for inscriptions

CONSONANTS

SIMPLE AKSHARAS

Gutturals

The letter *ka* continues its cross shape Though in some cases in the inscriptions of Bhārhut and Sāñchī *ka* is of the

1 *HPMB* p 16

2 *Ibid*

3 Cf Verma, T. P , *JOI*, XIII, No 4, p 365, where we have dealt with this problem in some detail

4 See, Plate IV,

shape of a perfect plus sign of equal arms, generally the vertical is longer than the horizontal bar. In adding the *ā* (IX. 7. i), *i* (IX, 7. ii), *e* (XIV. 7. i) and *u* (IX. 7. iii & XI. 7. iii) medials the older practice is followed, but some new trends and peculiarities can also be noticed. For example we can see cursive variety of *i* medial (XI. 7. ii); a slightly slanting stroke for *e* medial (IX. 7. iv) instead of a horizontal one; a simple line extending towards right and the left of the vertical for *o* medial. This type of *o* medial becomes a regular feature in this period.

There are three types of the letter *kha* in these inscriptions : (1) the round-topped *kha* without a dot (IX. 8. ii, X. 8. iii, XI. 8. ii & iv); (2) round-topped *kha* with a dot (X. 8. i); and (3) round-topped *kha* with a circle (IX. 8. i, X. 8. ii, XI. 8. i, iii, v). In some cases this circle is not perfect. *I* medial is attached in the traditional manner. The *u* medial sign is added in two ways. If the letter is appended with a circle, a short bar is added below it vertically (X. 8, ii; XI. 8. iii); but if it is the type of *kha* without a dot a short horizontal bar is attached to the right of the lower tip of the letter (X. 8. iii). The *o* medial sign is neither a horizontal line extending to the right and left of the letter nor two separate horizontal strokes, but it is formed by two slanting strokes (XI. 8. iv, v). This practice becomes more frequent in the first century A. D.

The letter *ga*, in this period, is to be seen variously from angular top to the round top (see Plate III. line 9). One of the most striking features noticed here is the mode of attaching the sign of *o* medial, in which different evolutionary steps can be traced. After two separate dashes of *ā* and *e* medials, which together make an *o* medial sign, a horizontal bar was used for this (VIII. 9. i; X. 9. iv; XIII. 9. i). The next step was to curve this line (XI, 9. iii) and finally this curve takes the shape of two slanting strokes (VIII. 9 ii). The medial sign for *u* is shown simply by curving the right leg towards the right (X, 9. iii).

There are two distinct types of the letter *gha* i e, the old round-bottomed type, and the flat-bottomed type (IX 10. i) which is a new development There is a tendency towards shortening the left verticals and in Sāñchi II we find almost equalised verticals (X. 10. i-ii) The medial sign for *ā* (XI. 10 ii), *i* (IX 10. ii, XI. 10 iii) and *o* (XI. 10 iv, VIII. 10 i) are added to the left arm At one place the *u* medial is shown by extending the middle vertical a little below (IX 10. iii)

Palatals

The letter *cha* is usually of the same old semicircular loop type (IX 11 i, XI 11 i-iv), but the triangular loop type *cha* (IX. 11 iii) is also to be seen The medial sign for *i* is added to this letter in two ways, either by adding a curved medial at the top of the letter (IX 11 ii) or by adding the curve slightly below the top to the right side (X 11 iii) The *u* medial sign is also attached in two ways Sometimes an extention of the vertical takes place below the letter to show this medial (IX. 11. iii X 11. i) and sometimes a horizontal dash is added to the bottom of the letter extending to the right (XI 11 iv). The long *u* medial is shown by adding two such dashes (XI 11 v) The *ā* (XI 11 ii) and *e* (XI. 11 vi) medials are in the traditional fashion

We find only two types of the letter *chha* in these inscriptions, i e *chha* with an oval base (VIII 12 i, IX 12 ii) and *chha* with a double loop at the base (X 12 i-ii, XI 12 i iii). The latter is the evolved form The medial signs of *i* (XI 12 ii), *u* (IX. 12 i, XI 12 iii) and long *ū* (VIII. 12. ii) are all shown in the old traditional way.

There are at least two types and many varieties of the letter *ja* The two main types are the three-armed *ja* and the double curved *ja*. The three-armed *ja* has two varieties, i e, with straight vertical (VIII. 13 i. XI. 13 iv), and with curved

vertical (VIII. 13. ii, XIII 13. i). The double-curved types have many varieties. Besides two simple curves placed one upon the other (IX. 13. i, X. 13. i, XI. 13. i-iii and iv-v, XII, 13. i). another variety emerges out of the movement of the pen in cursive hand, forming a loop in the middle (IX. 13. ii-iii). This loop is emphasized in another way when artistically written in the inscription of *Vajiguta* at Sāñchi (IX. 13 v). There are some intermediate forms between these two main types (VIII. 13. iii-iv).

The medial sign for *ā* is added variously in this letter. Sometimes it is shown by extending the middle arm (IX. 13. iv) and sometimes a stroke is added in the middle of the upper curve if it is the double-curved variety (XI. 13. iii), and if it is a three-armed *ja*, an additional stroke is added upon the upper arm making four arms (XI. 13. iv) in both the cases. Sometimes a slanting stroke is added to the upper arm of the curve (XI. 13 ii) to indicate an *ā* medial A slanting stroke is added to the middle arm to show an *i* medial (XI. 13. v) and sometimes it is shown by extending the upper arm vertically (IX. 13. v). The medial sign for *u* is shown by extending the lower arm vertically downwards (VIII. 13. iv) and the *e* medial sign is attached to the upper curve to the left of it (XI. 13. vi).

The letter *jha* is simple and has no variety or type (Plate III, line 14). The medial sign for *ā* (IX. 14. i) and *i* (IX. 14. ii, XI. 14. ii, XIV. 14. i) are added variously to both the verticals according to convenience.

There is no change in the formation of the letter *ña*. On the coins the right hook is comparatively smaller (VIII. 15. i) while on the stone records the right hook reaches the left leg (IX. 15. i-ii. XI. 15. i-ii). *O* medial is shown by a small bar making a cross at the neck of the letter (XI. 15. ii).

Linguals

The sign for the letter *ṭa* is a small semicircle opening to the right, and is one of the letters least susceptible to change

A vertical dash added to the upper end of the letter makes the *i* medial (IX. 16 i, X 16 i, XI 16 ii) and such a dash to the lower makes a *u* medial (XI 16 iii)

Similarly the letter *tha* which is a complete circle, is also not very susceptible to change and it retains this shape since the time of Aśoka The sign for *i* medial to it is the same as for other letters with straight vertical and is generally attached at the 2 O'clock point of the circle (IX. 17 ii, X 17 i XI 17 ii)

Though the letter *da* retains its older shape in many cases (VIII 18 i, X 18 i ii etc), some hurriedly written forms are also to be seen (IX 18 ii) The signs for *ā*, *e*, *i* and *u* medials are as usual. Long *ī* is shown by two lines (IX 18 ii)

The letters *dhi* and *na* continue their old Aśokan forms (Pl. III, line 19 and line 20) The mode of adding *ā* and *i* medials is also the same

Dentals

Among the dentals there are at least three main types of the letter *ta* The angular *ta* with the two lower appendages making an angle can be seen at Sāñchi I (IX 21 ii & v) Bhārhut I (XI 21 iii-v) and Barli (XIV 21 i-ii) The curved type of *ta* with its two lower appendages meeting in an upper curve is to be noticed on the coin legends (VIII. 21 i, iv, vi) and at Bhilsa (XIII. 21 iii) The third type has two varieties (a) with its angle making stroke to the left (VIII 21 ii, v, IX 21. iii), and (b) with its stroke to the right (VIII 21 iii, IX 21 i, iv, X 21. ii, XI 21 i, XIII 21 i) The medial sign for *i*, *ī*, *u*, *e* etc are as usual, but in some cases a slanting stroke serves as *i* medial (X 21 ii) and a single line indicates *o* medial instead of two separate strokes (XI 21. v)

The letter *tha* is another which shows little change i e the dot in the circle still continues A single downward stroke serves for the *u* medial (XI 22 iv) and two such strokes are

used for long *ū* medial (X. 22. ii). Similarly single and double curved upward strokes are used for the medials *i* and *ī* (XI. 22 ii & iii) respectively.

Letter *da* is more susceptible to change and a glance at line 23 of plate III will reveal that its shape varies much. However, in almost all the cases the middle opening is still to the left. When written hurriedly this letter sometimes resembles *ḍa* (IX. 23. i, cf. XI. 18. ii) and sometimes *ja* (e.g. IX. 23. vi. cf. XIII. 13. i). For medial signs the usual practice is followed.

The letter *dha* is sometimes regarded as important from the viewpoint of the development of the script.[1] In most of the Aśokan inscriptions this letter is of the shape of the Roman capital letter D.[2] The same is the shape in the Mahāsthān and Piprāhvā inscriptions.[3] But in the later inscriptions it has a reverse form. At Sāñchi and Bhārhut the vertical stroke appears to the right of the loop (IX, X, XI line 24). The medial signs are used in the conventional way, but sometimes there seems some confusion regarding the medial *u*. In some instances, this is shown by extending the vertical line downwards (IX. 24. iii & XI. 24. v), but in others a small horizontal bar is used (XI 24. iv).

Ever since the time of Aśoka, the letter *na* retains the same shape, i.e. a vertical line touches a horizontal one in the middle. The medials are attached in the conventional ways. It is worth noticing that in some examples of *so*, *ro*, *ṭo*, *bo*, etc., a single line serves for the *o* medial, but this is never used in the case of the letter *na*. There are always two strokes to indicate the *o* medial.

Labials

Though in the majority of cases *pa* retains its archaic form of a hook, certain new features can be observed which may

1. Majumdar, N. G., *MS*, p. 265.
2. Cf. Dani, op. cit., pl. IIIa; IVa; and Upasak, op. cit., p. 82.
3. Cf. our Table I, line 16.

be regarded as modern tendencies from the point of view of future development These are, (i) the equalisation of the verticals (VIII 26, i iii, IX, 26 ii, iv, X 26 iv, v, XII 26 i, XIII 26 i) and (ii) the angularity of the curve of the hook (VIII 26 iii, XI 26, ii, v, XII, 26 i, XIII 26, i). Similarly, though the medials for *ā e, i* and sometimes *u* and *ū* are attached in the old fashion, the medials for *o* and *u* are of more modern type A single lined medial, instead of two strokes, has very often been regarded as a later tendency [1] This we find in many cases (IX. 26 v, X 26. v) In the same way, the downward extension of the right vertical for *u* medial (VIII 26 iii, IX 26 ii, X 26, iv, XIII 26 i) has also been taken to be a later practice[2] But it is not correct to say that the older practice of adding *u* medial in the middle of the curve persists only in Bhārhut I,[3] which has been assigned to the later half of the first century B. C by Dani,[4] because this can be seen in the inscriptions assigned to this century (IX 26 iii, X 26 iii & XII 26 ii-iii)

The letter *pha* is one of those letters which are used very rarely. Its shape is almost the same since the time of Aśoka, and the same old practice of adding *i* (IX. 27 i, X 27 i) and *u* (IX 27 ii) medials is followed The short left vertical of *pha* at Bhārhut can be marked as, during the coming century, the short vertical becomes a characteristic of this letter

The letter *ba* still continues its square shape but some times it is rectangular (IX 28. v) which is not very important from the view point of development In some instances the angles are curved also (IX. 28 i ii) As regards the attachment of the medial signs to this letter, there seems some confusion Sometimes *o* medial is shown by extending the top line towards

1 Majumdar, N G, *MS*, p. 266

2 Dani, *op cit*, p 58

3 *Ibid*

4 *Ibid*, p 59

left and right (IX. 2. v; XI. 28. vi) but in some instances two short bars shoot from the middle of the left and right verticals (IX. 28. vi). Similarly there is no definite practice regarding *u* medial also. This could be shown by extending the right vertical downwards (IX. 28. iii; X. 28. ii; XI. 28. iii) or by adding a downward stroke in the middle of the lower horizontal line (IX. 28. ii; X. 28. i; XI. 28. iv). For long *ū* medial two such strokes serve the purpose which form an angle on the lower horizontal line (XI. 28. v). But this is not all. As we will see in the Compound Akshara section of this chapter conjunct *bra* has also been shown in the same ways (Cf. VIII. 40. v; and VIII. 40. iv; XI. 40. iv). For that reason, one could have been confused with the other. Same uncertainty prevails in the case of *i* medials also. For example *i* and *ī* medials can be attached to the upper right corner (VIII. 28. ii. and XI. 28. i, ii respectively) as well as in the middle of the right vertical (VIII. 28. iii). This, however, does not creat any confusion.

The letter *bha* is also regarded as one of those letters which are most susceptible to change.[1] The standard Aśokan *bha* has got a broken right vertical,[2] though straight vertical *bha* is also not unknown[3] in the post-Aśokan period straight vertical *bha* becomes most frequent. But at Sāñchī in some cases older form also persists (XI. 29. i). Among the straight vertical *bhas*, legs are, very often, of equal length but sometimes the right leg is bigger than the left one (XI. 29. vi; XIII. 29. i). The sign for *o* medial is mostly of the straight line type, and *i* medial, in many cases, is a curved line but sometimes a slanting stroke (IX. 29. iii) serves its purpose. There is nothing new in the *ā*, *u* and *ū* medials which continue the older practice.

The letter *ma* can be seen in many shapes (Pl. III, line 30), all of which cannot be regarded as varieties (especially IX. 30. i-iii) because they have no bearing either upon the

1. Majumdar, N. G., *MS*, p. 266.
2. Upasak, C. S., *op. cit.*, p. 88.
3. *Ibid.*

future development or on the present script More or less they can be accounted for as due to carelessness. In some cases the lower circle is of a good round shape while in others its roundness varies. This variation paves the way for future development in which a triangular-based *ma* becomes the standard form.

Semi-Vowels

During the century under discussion, wedge-shaped *ya* (IX 31 ii) and double-curved *ya* (X 31. ii, XIV 31. ii) become rare but crescented *ya* (VIII. 31. i, iii; IX. 31. i, X. 31 iii; XI 31 i ii, XII 31, i, XIV 31 i) has been used in majority of cases We notice, however, two major developments in this letter Firstly, there is a marked tendency to reduce the middle vertical and equalise with the side ones Though this can be seen in the stone inscriptions too, it is more emphasized in the coin legends (VIII 31 i, iii). Secondly, there is a tendency to make the bottom of the letter flat (IX. 31 iii, iv, X. 31 i). These characteristics are important because of their role in the future development of the letter We have noticed above that the coins were pioneers in the field of script technology This is best illustrated in the form of this letter on the coins, specially *Yaudheya* coins In these coin legends, not only are the verticals equalised but the two slanting strokes for the *o* medial (VIII 31 iii) pave the way for its popularisation in the next century.

The letter *ra* does not show much variation. The straight line *ra* is most frequently used (Pl III line 32) but the so-called 'cork-screw' *ra* can also be seen (XII 32. i-iii). A peculiar formation of *ra* made by two curves placed one upon the other (resembling *ja*), which has already been noticed in the coin series No 1 (VII. 25. ii), can be seen in the Sāñchi inscriptions also (IX. 32 iii) The sign for medial *o* in some cases is a straight line but in others it is two lines to the left and right of the letter The left stroke is always at the top but the right stroke has been put anywhere on the right from a

little below the top to the middle of the letter. There is a possibility of confusion because the *u* medial, which is also placed to the right but in the lower half of the letter (VIII. 32. ii), sometimes occupies its position to the middle of the letter (IX 32 iii). *Anusvāra* is shown by a dot to the right above the letter (XIV. 32, iii).

Though the letter *la* resembles the letter *pa* in its formation, it does not seem to have many variations (pl. III, line 33). But the tendency to equalise the verticals and angularise the curve (IX. 33. iii; X. 33. ii) can be marked. This is responsible for the angular form of *la* of the first century A. D.

At Sāñchi we find a peculiar letter formation which has been read by scholars as *la*.[1] There is another letter, supposed to represent the same sound, found at Mathura. Bühler reads the word, in which the letter is used as *kālavā'a*.[2] The Sāñchi *la* is something like ; and the Mathura one is like . Dani,[3] however, derives these letters from the Brāhmi letter *ṭa*. But this is not acceptable. Dani probably mistook the upper vertical of Sāñchi *la* for the part of the *i* medial, and hence derived this letter from Brāhmi *ṭa*. This formation does not explain the upper vertical of Mathura *la*. In our opinion this letter closely resembles the letter *ḍa*. (cf. IX. 18. ii) and must have been derived from this letter or Aśokan *ra* which is formed by a dot put under the letter *ḍa*. Phonetically also this is closer to the letter *la* which was later confined to the South Indian languages.

Dani ...	(ṭa)	(ḷa)		Sāñchi
	(ṭa)	(ḷa)		Mathura
Our theory	(ṛa)	(ḷa)		Sāñchi
		(ḷa)		Mathura

1. Majumdar, N. G., *MS*, pl. CXXXI, No. 187.
2. Bühler, *EI*, Vol. II, Pl. opposite p. 378, No. 33.
3. Dani, *IP*, p. 54, fig. 6. viii, and p. 55.

The dot in the Aśokan *ra* probably took the form of the lower tip in the Sāñchī *la* and was again elaborated in the Mathura specimen [1]

The lower circle of the letter *va* does not retain its perfect round shape, rather it varies (Pl III, line 35) But finally it settles down to a triangular base form (VIII 33 i, iv) At Sāñchi, we find a peculiar formation of this letter Instead of a circle or a triangle, a square is appended to the vertical (IX 35 ii) But as we shall see in the next chapter, this form did not get the approval of writers in general, because a triangular *va* was a logical outcome of a letter with circular appendage Medial signs are added in the conventional way.

The first letter of the Barli fragmentary inscription has been read as *vī* by Haldar,[2] and D C. Sircar suggests it to be a compound letter *dva*[3] (XIV 35 ii) But both readings are hardly convincing We never find an *ī* medial turned to the right (see above pages 14-15, Chapter I) and there is no reason to place this inscription in the fourth-fifth century B C , only on account of this doubtful reading,[4] because 'its palaeography otherwise belongs to the first century B.C '[5] And on the other hand the suggestion of Sircar is also not acceptable because, in the words of Dani, 'the form of *da* opening on the right is not seen in this period save for the exceptional script of Bhattiprolu '[6] We agree with Dani that 'in its fregmentary nature it is difficult to suggest any definite reading'.

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1 Also cf Upasak, *op cit* , p 74 and Buhler, *IP*, pp 30 & 55 However, Buhler's derivation of this letter from *da* is also not fully justified as we have Aśokan *ra* to explain its formation Ofcourse, Aśokan *ra* itself is derived from *da*

2 *IA*, 1929, p 229

3 *JBRS*, 1951, p 35

4 *IA*, 1929, p 229

5 Sircar, D C , *JBRS*, 1951, p 36, however, assigns it to the same date as the Bhilsa inscription of Bhāgavata.

6 Dani, *IP*, p 54

Sibilants & *Ha*

The letter *sa* in the Ghosundi inscription (XII. 36. i-ii) is somewhat angular while on the coins it has developed into a curved form. But the letter *sha* is met with in its advanced form with almost equalised verticals and angularised form on the coins (VIII. 37. i) as well as in the regular inscriptions (XII, 40. iv). These letters occur less frequently.

On the contrary, the letter *sa* is used most frequently and it exhibits many variations of form. Here we prefer to classify this letter into two main types, viz. curved hook type and angular-hook type. The former is the same as found in the earlier periods while the latter type is a developed form. There is also a tendency to equalise the verticals and this is to be seen specially in the latter type (VII. 38. ii-iv; IX. 38. ii; X. 38. ii etc.). The medial for *o* is a single line as well as two separate strokes. Similarly the *u* medial is appended to the middle of the hook as well as in alignment with the right vertical, as in the letter *pa*.

Like the letter *sa*, *ha* also can be classified into two main types, curved and angular (Pl. III, line 39). The angular type represents a more advanced form and is generally found on the coins (VII. 39. i-ii). But it can be seen in inscriptions also (X. 32. i; XI. 39. i, iv). The medials are added in the conventional way.

COMPOUND AKSHARAS

The compound letters are very interesting in this period. Very often a certain amount of immaturity and uncertainty is marked in combining two letters. For example, a combination of letters *ba* and *ra* is most significant for two reasons; firstly the secondary letter *ra* is shown by a simple vertical line and not by a serpentine line, and secondly, it is sometimes added in the middle of the letter *ba* (VIII. 40. iv and XI. 40. iv) and sometimes shown by extending the right vertical downwards

(VIII 40 v) This creates confusion because the same techniques are adopted for adding *u* medial to this letter (see above p 73) Similar confusion exists in the combination of *na* and *ha*, and *na* and *ha* The letter *ha* joints *na* at different points It may touch the right half of the base of the letter *na* either at the right end (IX 40 iii XI. 40 iii) or in the middle (IX. 40 ii) and sometimes the middle vertical is extended downwards to form the left vertical of subscript *ha* , which might easily be read as a combination of *ka* and *ha* (X 40 i) a difficult combination The uncertainity of the combination of *ha* and *ma*, or *ma* and *ha* is also remarkable (VIII. 40 vii and XI 40 v) Probably this is due to the peculiarities of pronunciation The same word was perhaps pronounced by some as *brahma* and by others as *bramha*. The letter *ha* is added to *ma* either at the bottom of the circle (XI 40 v) or to the right of it (XI 40 vi)

The combination of *ra* with other letters is also very interesting During the period of Aśoka, the combination was uncertain As a rule the letter pronounced first was placed above the letter pronounced next. But in Aśokan inscriptions, we notice that sometimes *ra* finds the upper place even when it was not intended to be pronounced first for example *trai* , *rva* or *vra* etc On this point Upasak observes

> "When these signs are closely examined, it is evident that no uniformity was maintained in attaching them The extra stroke sometimes appears at the top, some times below and sometimes even in the middle Its direction is also not definite as it goes at some places to the right, and other to the left How can there be so many signs for a particular letter ? For instance, in REJ —I 2, a shape thus— is read by Hultzsch as *dra*, while in the next line stroke for *R* comes below— In later ages, the use of *R* is very frequent, its form in combination is uniform and its sign is very distinct. In all probability these signs, accepted as *R*

by Hultzsch, are errors, mostly on the part of the engraver".[1]

It is clear from the above passage that Upasak holds two persons responsible for this; firstly the decipherer, Hultzsch,[2] and secondly the engraver. But actually neither of them was responsible. This and many similar errors were to be expected from the Brāhmī writing when it was in its primary stage during the time of Aśoka. In the period under study, the indefiniteness and uncertainty was not over and traces of this can be seen in the combination of the letters, though considerable stability was gained by this time. The letter *r* was added to the right half of the initial letter, and if intended to be pronounced before a letter, it was placed above that letter, e. g., *rsha* (XII. 40. iv). Mostly this letter was in the serpentine or the so-called cork-screw form, but in some cases it was a straight stroke, e. g. *ra* in *bra*. At one place, on a coin, *r* in *tra* is shown by slightly bending the right leg of *ta* (VIII. 40.iii). The letters *kra*, *ḍra*, *dra*, *tra*, *pra* etc. are as usual. In this period we come across combinations like *bhyāṁ* and *rsha*, which are due to the fact that Sanskrit also was being attempted in this script. This fact necessitated the addition of many new signs in Brāhmī.

In this period we notice some other peculiarities also. At Sāñchi on a pavement slab (Marshall, *MS*, pl. exxx iv. 17) we find an example of reversed writing. This short inscription reads from right to left except the last word, *dānaṁ*, which reads in the usual way. This can be nothing but the fancy of the writer. Such enthusiastic expression can be seen in the double-lined letters of the two ground railing inscriptions of Stūpa II at Sāñchi (Marshall, *MS*, pl. exxxvi. 9 & 11).

Some letters have also been found with peculiar shapes. At Sāñchi we notice a letter which resembles *ga* but has been

1. Upasak, *HPMB*, pp. 120-21.
2. *Ibid*, p. 120.

read as *kha* (*pokhareyakasa*, Marshall, *MS*, pl cxxxvi. 25) On a casket found in Stūpa No III at Sāñchī (Marshall, *MS*, pl cxxxx s) we see that the upper vertical of *bha* is attached to the left instead to the right Similarly some peculiar forms of the letter *ma* can also be noticed in the figure below :

Some peculiar combined letters

I *Bra* , compare *Bu* ,

II *tra* ,

III *mha* *hma*

IV *nha* ,

Peculiar medials

I. *ā*

II *i*

Some peculiar shapes

I *ma* ,

II *bha*

III *kha*

In an inscription on the railing of Stūpa I at Sāñchī we find that a slanting stroke has been used for the *i* medial (Marshall, *MS*, pl cxxviii 18) In another inscription at Bhārhut (Cunningham, *Stūpa of Bhārhut*, pl lvi 45), *ā* medial has been put to the left of the letter *ma* instead of right

In a casket inscription of Stūpa III (Marshall, *MS*, pl cxxxx r), we see a peculiar spelling for the word *dhitu* (daughter) Instead of writing it with the letters *dhi* and *tu* it has been spelt as *di + hi + tu*

With all these remarks it can be said that experiment was still going on during this century and writing was still unconventionalised Some elements of uncertainty were still present in the Brāhmī script But as compared to the time of Aśoka it had considerably advanced and it was gaining the capacity to write the Sanskrit language also

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1. *EI*, Vol. XVI (1921-22) and Plate.

VI. Bhilsa Inscription of Bhagavata

1. *Memoirs of Archaeological Survey of India*, No. 5, Pl. XXVI.

VII. Barli Fragmentary Inscription

CHAPTER V

THE ROLE OF THE SAKA KSHATRAPAS

(Early Ist Century A D.)

Until the close of the first century B. C., the Brāhmi script developed uninterrupted on the old traditional lines established during the time of Aśoka Its growth was very slow and to some extent it was static The tool and the technique of writing was almost the same as used in the Aśokan inscriptions. The changes which had taken place so far were mainly due to the fact that the art of writing was becoming known to more and more persons with increased chances of introducing individual mannerisms and personal habits. This and the teacher-taught traditions paved the way for freaks, seemingly developing into regional traits. But by the close of the first century B. C the Śakas established themselves in north-west India and they introduced some revolutionary changes in the art of writing Brāhmi script We have observed earlier that the tendency to equalise the verticals of letters like *pa*, *la*, *sha*, *sa* and *ha* and to angularise the curves had already started during the first century B. C This change was led by the coins (Table VIII of Plate III), obviously influenced by the Greek lettering The Śaka Kshatrapas used an edged pen for writing which gave a new face to the Brāhmi letters, producing an effect not dissimilar to Greek lettering Dani rightly observes that 'this was not an isolated phenomenon' and 'the well known use of square omicron on the Śaka and Parthian coins' can be related to

this.[1] The inscriptions of the Kshatrapas of Mathura are well marked for their neat and well formed letters. During this period individual letters got special treatment, the main attention being given to the top of the letters. The triangle-like formation at the head of the letters *ha, ra, la, va* etc. was not deliberate, but it was produced by the skilful wielding of the new writing tool. This top triangle became so popular that very soon it was imitated by less skilled writers, giving an entirely new shape to some letters, e. g., *va* (Plate IV, Tables XVII and XVIII, line 34). These of course, could not get popular acceptance. Besides this top formation, the verticals of the letters were equalised and angularised in a very elegant manner. The *i* medial took a beautiful long flourish. Some other letters also got new shapes which will be discussed in detail below. This new technique received wide acceptance and was known in various degrees of perfection throughout the sub-continent within a half century. Another contribution of this 'new-pen-style' was that hence onwards the growth of the script and the changes in it were more rapid. The first century A. D. is the most important period of the history of the Brāhmī script simply because the changes introduced at the beginning of this century proved to be a turning point, paving the way for accelerated changes and consequently developing into regional scripts. For the first four centuries of its history, the Brāhmī script remained practically the same for the whole sub-continent. But by the end of the fourth century A. D., script-wise India was split up into many regional pockets. One should not think that only the 'new-pen-style' was responsible for all this. There were other factors also which brought about the changes, and we will deal them in some detail in the next chapter. Here we would only like to emphasize that this new style of writing, was but an important beginning of future changes.

In the latter half of the first century A.D., the Kushāṇas became politically important in Northern India and Kanishka

1. *IP*, p. 52.

started the tradition of systematically dated inscriptions which was also followed by his successors Such a system of reckoning became so popular that the rulers of Kauśāmbi, Bandhogarh (Rewa) and other places started dating their inscriptions in this era It has been suggested that these eras may be the same as the era used by Kanishka and his successors [1] Though the problem is far from settled it is believed by a majority of scholars that the Śaka era beginning from 78 A. D. is the same as that which was started by Kanishka [2] The inscriptions of Kanishka and his successors will form the subject matter of the next chapter. In this chapter we will take up and analyse only those inscriptions which are considered pre-Kushāna

A Führer assigns the two Pabhosa inscriptions to the second or first century B. C.[3] But a comparison of these with the Kshatrapa inscriptions of Mathura leaves no doubt about their belonging to the first century A. D. On the same considerations the Ayodhyā inscriptions of Dhana(deva) can also be placed in this century.[4] These two sets of inscriptions clearly show the use of the 'new-pen' The Bhārhut *toranī* inscription of Dhanabhūti mentioning *suganam-raje*[5] and the Bodh-Gaya

1. Dani, *IP*, p 90
2 Sircar, D C, *The Age of Imperial Unity*, pp 143 44
3 *EI*, II 243
4 Cf Sircar, D C, *SI*, p 80, fn 1
5 Cunningham, *Stūpa of Bhārhut*, p 128, pl liii 1 Prof A L Basham, while going through the typescript notes, 'Without referring again to the actual inscription I can't be sure, but to put the Dhanabhūti inscription in the first century A D involves many chronological difficulties, and I must admit I'm doubtful' Here I want to point out that the Śunga dynasty was ruling in Ayodhya in c Ist century A D is clear from the Ayodhya inscription of Dhana (deva) and therefore the mention of the Śungas in the Bhārhut *torana* inscription of Dhanabhūti is not entirely unexplainable because they might have held their nominal sway over this area through some feudatory, if not directly R P Chanda also accepts the *torana* inscription to be of a later date than those on the railings of the Bhārhut stūpa (cf *Mem A S I* No 1 pp 14 15 and also supra pp 58 61)

inscriptions on the fragmentary railings[1] are probably written with the traditional pen, but the treatment of some letters like *va, ha, pa, ra* etc. (specially in the Bodh-Gayā inscriptions) and the long flourish for the *i* and *ī* medials indicate that the script of these inscriptions is too advanced to be confused with the older types. This can be assumed to belong to the transitional period when the use of new pen style was known but not introduced in the eastern parts of northern India. There is a marked difference in the palaeography of the Bhārhut toraṇa inscription of Dhanabhūti I and the Mathura inscription of Dhanabhūti II.[2] According to Cunnigham[3] Dhanabhūti II was the grandson of Dhanabhūti I. The vast difference in the characters of these two inscriptions is not due to a long gap of time between their issuers but due to the differences in the local writing traditions of these two places; Mathura being more informed about and susceptible to the new changes while in the east old practices persisted.

In the western region Sāñchī and Mathura were the two most important places from the viewpoint of writing activities, the latter gaining accelerated importance every day. From Sāñchī the inscriptions on the Stūpa III, the East, South and West gateway inscriptions of Stūpa I, the relic casket inscriptions from Stūpa I and some inscriptions from the railings of Stūpa I (Marshall's Nos. 90, 283, 322, 324 and 350) have been studied and analysed in Table XVI on plate IV. These are labelled as Series III and assignable to the Ist century A. D.

The inscriptions from Mathura are classified into two groups. One group is formed of those inscriptions which bear the names of the Kshatrapas and the other group consists of those which have been taken to belong to the pre-Kushāṇa

period of the Ist century A D A list of the inscriptions consulted and analysed is given at the end of the chapter

In the eastern region besides Bhārhut and Bodh Gayā Kalinga is also noted for its writing activities being carried over by the kings of Mahāmeghavāhana dynasty of Orissa The Hāthigumphā inscription of Khāravela of this dynasty is one of the most disputed documents not only because of its contents but also for its palaeographical peculiarities The main reason for this seems to be its irritably worn out condition which gave rise to several variant readings A discussion of these does not fall within our scope and therefore we will take up only its palaeographical characteristics which, according to our analysis, indicate its belonging in the early Ist century A. D This epigraph has variously been placed between the 3rd and 1st centuries B. C [1] But we have reached early first century A D for its date not only on palaeographical considerations but also from some other ratiocination

There are at least two considerations for determining the date of Kharavela These are (i) the mention of contemporary kings and (ii) references to era if any, in his Hāthigumphā inscription As regards the first there are three names of kings which could be desciphered with various degrees of satisfaction. Of these the reading of the name of Sātakarni only is beyond dispute. Of the other two names of *Bahasatimitam* and *Dimata*, very often identified with *Demetrius the* son of Eythedemus, the reading of the latter is extremely doubtful [2] Considering the late date of this inscription and

1 *CHI*, p 642 and pp 481 ff See also Sten Konow, *Acta Orientalia*, I, 1923 p 12 ff, for various dates proposed

2. Cf Tarn, W. W, *GBI*, pp 457-58 "In 1919 the late Dr Jayaswal and the late Professor R D Banerji made a fresh examination of the rock, and Jayaswal announced that he had read the word Yavanaraja, followed by the proper name Dimata, he has stated that he found the syllable *ma* clear and ultimately with great difficulty read Dimat (a) This reading, and its interpretation as the Greek king Demetrius, were accepted both

the doubts prevailing about the exploits of northern India by Demetrius and also the paucity of evidence to think of Mathura as his capital, it is impossible to arrive at any conclusion on this basis. Similarly the identification of *Bahasatimitam* or *Bahapatimitam* with Pushyamitra Śuṅga 'merely on the ground that Bṛihaspati (Jiva) is the regent, *nakshatrādhipa*, of the *nakshatra* or zodiacal asterism Pushya, also named Tishya, in the constellation Cancer or Carb, cannot be regarded as final in the absence of more convincing evidence'.[1] In no case Khāravela could be regarded as 'a contemporary of Pushyamitra who ruled from about 187 to 151 B. C.'[2]

But the case of Sātakarṇi is worth considering who seems to be Sātakarṇi the First, the third king of the Sātavāhana dynasty, variously been assigned a date ranging between 3rd century B. C. to 1st century B. C. But the Purāṇas provide us with a definite clue as regards the date of the beginning of the Sātavāhana dynasty. In the Purāṇic lists of the future kings[3] it is stated 137 years after the accession of Chandragupta Maurya the Suṅgas will rule for 112 years and then the Kāṇvāyanas for 45 years whose last king Suśarman will be killed by the Āndhra Simūka (also misspelt as Śiśūka, Sindhūka, and Śipraka in the Purāṇas). Thus 294 years had

by Banerji and by Dr. Sten Konow. Konow, however, said of his own reading : 'I can see Yavanarāja, as read by Mr. Jayaswal, and of his Dimata the *ma* is quite legible' ; he did not say if he could see the supposed faint traces of the rest of the word.....Jayaswal's version in 1927 was : 'On account of the report (uproar) occasioned by the acts of valour i. e. the capture of a fortress etc. previously mentioned the Greek king Demet (rios) drawing in his army and transport retreated to abandon Mathurā.' Then in 1928 Jayaswal puts forward a totally different view : what in the inscription refers to, he said, is the Greek king (he does not say Demetrius) being beaten off from Pataliputra when he attacked it and retreating to Mathura."

1. Raychaudhuri, H. C., *PHAI*, p. 374.
2. *Ibid*, p. 378.
3. Pargiter, *DKA*, pp. 70-71.

passed away after the accession of Chandragupta, say about 324 B C, when the Sātavāhana dynasty was established by Simūka, a date which falls in 30 B. C.[1] Simuka is said to have ruled for twenty three years and his successor Krishna for 18 years (sometimes 10 years) Thus the date of Sātakarni, who succeeded Krishna, falls in c 10 A D (c 0 A D) We agree with Prof Raychaudhuri that Simūka was for some years a contemporary of Suśarman (40 30 B. C) and flourished in the first century B C.', but are hesitant to accept the view that his reign period be counted from sometime before 30 B. C, keeping in view that he established the Sātavāhana power after killing Suśarman in 30 B C Therefore it seems more probable that Sātakarni started his reign sometime in the beginning of the 1st century A D whose younger contemporary was Khāravela because in the second regnal year of the latter Sātakarni seems to be a big power.

The second consideration is the mention of some dates in this epigraph of Khāravela In the line 16 of the inscription earlier scholars read and interpreted '165th year of Rāja Muriyakāla [2] But now nobody accepts the existence of a Maurya era in this inscription as the revised reading does not permit any such assumption [3] The second passage, which mentions some date, runs as follows in the sixth line of the epigraph *Pañchame cha dānī vase Namda-rāja ti-vasa sata o (ghā) titam Tanasuliya vātā panādim nagaram pavesa (y) ti* Here Nandarāja has been taken to be a king of the Nanda dynasty of Magadh, and the expression *ti-vasa sata* is either 103 or 300 years However, there are good reasons for believing that this cannot mean 103 or 300[4] years but rather three centuries It should not be taken, as a matter of fact, 300 years in 'round number Some scholars have tried to count

1 Raychaudhuri, H C, *op cit* pp 403 ff and Sircar, D C, *AIU*, p 195
2 For detailed discussion see *CHI*, pp 481 82, and, *PHAI*, p 373 ff
3 Sircar, D C, *SI*, p 218, fns 13, 14, 15 for the Sanskrit version of the expression p 221
4 For arguments see Banerji, R D, *JBORS*, 1917, pp 495 ff

this from 324 B. C.,[1] the supposed date of accession of Chandragupta Maurya, or two years earlier i.e. from 326 B. C. 'when the Nanda dynasty may have been overthrown'. In our opinion this loose expression of 'three centuries' may be counted from any date in the late 4th century B. C. when Nandas were in power and might have invaded Kaliṅga, and does not effect the date of Khāravela who flourished in the early 1st century A. D. De la Vallee-Poussin maintains Khāravela to be 'apres, beaucoup apres 150', probably early 1st century A. D.[3]

As regards the palaeography of this epigraph it undoubtedly belongs to the 1st century A. D. We need not agree with Dr. Sircar who maintains that 'on grounds of palaeography, it is to be placed later probably than the Nānāghāṭ records and certainly than the Besnagar inscription of Heliodoros'.[4] He further maintains about Sātakarṇi of the Hāthigumphā inscription that 'This king seems to be that Sātakarṇi who ruled shortly after the husband of Nāganikā according to the Purāṇas. Palaeographically the Hāthigumphā inscription is slightly later than the Nānāghāṭ records. It may be pointed out that the letters of the Sāñchi inscription of Sātakarṇi.....resemble the script of the present record and may belong to Sātakarṇi II. Of course, if this slight development is overlooked, we may identify both these Sātakarṇis with Sātakarṇi I. But it should be remembered that the big Nānāghāṭ record was possibly engraved after the death of that king'.[5] It seems that Dr. Sircar is hesitant as regards the identification of the Sātakarṇis of the Nānāghāṭ and Sāñchi inscriptions simply, perhaps, because of the differences in the characters of the records. But once one realises the fact that in the remote areas older forms persist longer, there can be no difficulty in understanding the

1. Raychaudhuri, H. C., *op. cit.*, p. 406.
2. Sircar, D. C., *op. cit.*, p. 215, fn. 7.
3. L. de la Vallée-Poussin, *L'Inde aux temps des Mauryas et des barbares, Grecs, Scythes, Parthes et Yue-tchi*, p. 198, as quoted in *GBI*, p. 457, fn. 3.
4. Sircar, D. C., *op. cit.*, p. 213, fn. 1 continued on following page.
5. Sircar, D. C., *op. cit.*, p. 215, fn. 1.

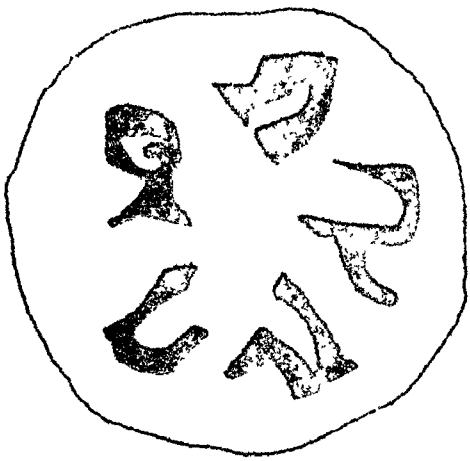
causes of the more advanced forms of the characters of the Sāñchi inscription on one hand and less advanced forms of the Nānāghāt inscription on the other In Western India the Nānāghāt inscription of Nāgnikā is perhaps the first big inscription after those of Aśoka, and after this remarkable advancements can be marked which took place within a century during the reign of the Western Kshatrapas and the Sātavāhanas in this area This can be explained as due to close contacts of this part of India, during this period, with the North as well as North-Western India Similarly Orissa also was less informed of the new developments and kept adhering with the older forms for some time

The characters of the Hāthigumphā inscription are analysed in Plate IV A

Table XV contains letters found on coins and seals which are considered to be of the first century A D The coins of the Kunindas the Pañchalas, the Audumbaras and the Kshatrapas of Mathura and the coins from Kausāmbi, Ayodhya and Almora have been assigned to this period. We find no palaeographic ground to assign some coins from Kauśāmbi, like that of Dhanadeva, and those from Ayodhya to a period after the Kushānas [1] Absence of the Kushāna epigraphs in this area after Kanishka and the existence of the records of the Magha rulers of Kauśāmbi and Bandhogarh area are sufficient reasons to believe that the eastern portion of the Kushāna empire slipped away from the hands of the Kushānas soon after the death of Kanishka. The provenance of the coins of Vāsudeva from Kauśāmbi[2] also does not effect our scheme However, the palaeography of coins is doubtful and too much reliance on it is risky Many new Pañchāla and other coins have come to light and have been published in the volumes of *JNSI* Some of them have been referred to here also. Some seals also have been considered and analysed A seal from Kauśāmbi has been

1 Dani *IP*, p 62
2 Chakravarti, N P ,*EI*, XXXI, 175

A



B

The Seal of Hathipāla
A. As published in *JNSI*.
B. After sealing.

published by S. C Kala[1] and referred to by K. D. Bajpai.[2] Both the scholars read the legend as *Vagi-palasa*. (see Fig.) The order of the letters does not permit this reading. The inscription is on a seal and is intended to be read after sealing. Dr. Bajpai overlooked this fact and has read it directly. If read after taking impression the seal clearly bears the name *Hathipalas*.

The characters of this seal may belong to the early first century A.D. A coin has been published by R. R. Tripathi in *JNSI*,[3] bearing the legend *Hathiparisa* which he thought to be a corrupt form of *Hastipurasya* or *Hastināpurasya*. The reading of this coin may be revised as *Hathipalasa* and this person may be regarded as the issuer of both the antiquities.[4]

With these introductory remarks we will now take up individual letters and trace

1. *JNSI*, XXIV, p. 137, Pl. II. 12.
2. *Ibid*, p. 16, fn. 1.
3. Vol. XXIV, p. 20, pl. II. 1.
4. For more detailed discussion see author's article in *JNSI*, Vol. XXXI, pp. 143-50.

how far they have deviated from the older practice and evaluate how much they are responsible for the development which took place during the time of the Kushānas

VOWELS

To begin with the vowels, at least six vowels are known to be used in this period The vertical of *a* is usually a straight line with thick top-head except those which come from a remote area like Bihar and Orissa etc Optionally, this is curved also, sometimes the lower end turning to the left (XVIII 1 iv & XIX. 1. i.) and sometimes towards the right (XVIII 1 ii) The left hand curves generally meet the vertical at one point but at Sāñchī III (XVI 1 i) Pabhosā (XIX 1 i), Bhārhut II (XX 1. i.), Bodh-Gayā (XXII 1 i) and Orissa (Pl IV. A. 1. 1. ii), they often touch it at two points In a good number of cases the lower curve of *a* takes an additional inward curve, producing a beautiful effect This is a Kshatrapa contribution The medial sign for *ā* meets the vertical either at the middle or at the lower half Very often the two curves at the left are equal in length to the vertical But *a* with longer vertical is also found (XVII. 1 ii, XVIII 1 iii, iv and XIX 1 i). This becomes one of the chief characteristics of the letter *a* during the following centuries

The letter *i* is formed of three dots with the apex at varying points. One of the main developments of this period is the addition of a fourth dot in this letter There are two clear opinions as regards the reading of this dot. Cunningham,[1] Ojha[2] etc. take the dot for *anusvāra*, while Buhler[3], Dani[4] and others regard it a sign for long *i*. Dani gives no reason for it but Buhler argues like this, 'Though this (Cunningham's) reading is possible, I consider it improbable, as it

1 *Mahābodhi*, p 15
2 *Prāchīna Lipi-Mālā*, p 51
3 *IP*, p 52 and *EI*, II, p 201
4 *IP*, pp 53-54

would be necessary to assume for *i* a not tranceable form, consisting of two dots side by side with a third dot above on the left, thus, ∴.

This argument of Bühler is not convincing at all. An objective observation of this letter reveals that perhaps there was no fixed convention about the position of the dots. They could have been placed at the will of the writer. To make an *i* only three dots were needed irrespective of their position. An exactly opposite situation of the dots can be found in the Mathura stone bowl inscription[1] (XVIII. 2. i) where two dots are placed in a line side by side and the third one is below the left dot. Secondly, in one of the Bodh-Gayā inscriptions[2] the three dots of *i* are in a position with the apex at the top (XXII. 2. i) and the fourth dot is in the right upper portion of the letter. Thirdly, a single dot has never been used for any purpose other than to denote an *anusvāra*, never as a long *ī* medial. Fourthly, in every case the reading *iṁ* gives sense, like *iṁda* or *iṁdra*, while long *ī* presents a peculiar conjunction like *īd* or *īdra*. Thus this fourth dot of *i* must be read as *anusvāra*.

The letter *u* continues its older form of an angle opening to the right (Plate IV, line 3 and Pl IV A, line 2). Sometimes the top of the vertical is thickened (XVII. 3. i; XVIII. 3. i and XX. 3. i), and in many cases the horizontal line is shorter than the vertical one. In one of the Pabhosā inscriptions[3] we find a letter resembling long *ū* (XIX. 3. i) the reading of which has been doubted.[4] The letter is clearly a long *u*.

We find one *e* which has its apex at the top (XVIII. 4. i). The triangle of *ai* in the Hāthigumphā has also its apex at the top (Pl. IV A. 4. i) while that of *e* is towards right (Pl. IV A.

1. *EI*, XIX, 68.
2. *Mahābodhi*, pl. x.
3. *EI*, II, p. 242, No. 1.
4. *Ibid*, fn. 10.

3 i) The letter *o* is formed by adding a horizontal stroke at the top of the left of the letter *u*. In many cases the letter seems to have been drawn in one stroke (XVIII 5 i, ii) On coins it takes a more cursive shape (XV. 5 i)

CONSONANTS

SIMPLE AKSHARAS

Gutturals

In this period the vertical of *ka* was lengthened, in some cases the top-head being a triangular one Dani[1] observes that 'this top-head formation was deliberately done It was implied in this new process of writing itself'. This is true for the skilled writers only This triangular head became so popular that less skilled writers started making it deliberately As a result of this we find peculiar forms of some letters, e g, *va* (XVII 34 iii-vi, XVIII. 34 i-iv etc) and *ta* (XVIII 20 iii, vi) with hollow head-marks in various stages Such a formation of *ta* was accepted at later stages in some areas, though it developed through line-head mark, while in the case of *va* the hollow head did not get popular support We will take up this point later while dealing with these letters. Returning to *ka*, we may observe that the horizontal cross is a straight line in many cases, but sometimes it takes the form of two downward slanting strokes (XVIII. 6 iii) which became a characteristic of later periods The head-mark of this *ka* is also noteworthy, especially in the Hāthigumphā inscription (Pl IV A. 6 i)

The shape of the letter *kha* is entirely changed, due to a triangle being appended to it instead of a dot or circle Though occasionally we find *kha* with a dot (XVI 7 i Pl. IV A 7 i, ii), the triangular *kha* becomes most popular The hook of this letter is also shortened (XVIII 7. i, ii, XV 7 i), though in Bodh-Gayā it is longer (XXII 7 i) This letter seems to have been written in one stroke without lifting the pen

1. *IP*, p 52

The angle of *ga* changes into a fine curve (Pl. IV, line 8) while the curved from of *gha* became angular (Plate IV, line 9 & Pl. IV A, line 8). The outer vertical of *gha* are equalised, but the middle vertical varies in size. In some cases it is equal to the outer verticals, (XV, 9. i., II) but in others it is shorter (XV. 9. iii; XVI. 9. ii; XVII. 9. ii, iii; XVIII. 9. i). In one case the middle vertical is longer than the two outer ones (XVIII. 9. ii), but this is by no means a representative example. At Bodh-Gayā and Hāthigumphā the left vertical is longer than the other two (XXII. 9. i and Pl. IV A 9. i) which reminds us of the earlier *gha* with its flat base.

Palatals

The letter *cha* in Bhārhut (XX. 10. i); Bodh-Gayā (XXII. 10. i) and Sāñchi III (XVI. 10. i, ii) represents the earlier *cha*, though the Sāñchi III ones are more advanced than the former two. The loop of *cha* develops into a rough quadrangular form (XX. 10. i, XVII. 10. i and Pl. IV A. 10. ii) and takes circular (XVIII. 10. i) and oblong (XVII. 10. ii) shape and finally develops into a beautiful crescentic loop (XVIII. 10. ii). Its vertical also is gradually shortened and then disappears, leaving a triangular head-mark (XVIII. 10. ii). But this is not the final shape which it takes in the later periods. Its vertical persists throughout, only disappearing occasionally.

Though *chha* with bisected circle appears in this period (XVII. 11. ii and XX. 11. ii), a double-looped *chha* becomes the standard form (XVI. 11. i, ii; XVII. 11. i; XIX. 11. i, XXII. 11. i and Pl. IV A. 11. i). The vertical of this letter is also reduced and in some cases has a thick triangular head-mark (XIX. 11. i).

The curved *ja* (XV. 12. ii; XVII. 12. i; XVIII. 12. ii; XX. 12. i, ii and XII. 12. ii and Pl. IV A. 12 ii) continues side by side with the angular ones (XV. 12. i; XVII. 12. ii; XVIII. 12. i and XXI. 12. i). In angular *ja* the vertical is generally straight, though at Ayodhya, Bodh-Gayā, and Hāthigumphā it

is curved They stand half way between the angular and the curved ones

The letter *jha* is rarely found and continues its older form with minor differences which were due to the 'new-pen' (XVIII. 13. i, ii) and the same is true also for the letter *na* (XIX 14 i XX. 14 i)

Linguals

The semi-circle of *ṭa* (XVIII 15. i, ii, XXII. 15 i) and the full circle of *ṭha* (XVI. 16 i, XVII 16 i) continued. The influence of the 'new-pen' is clearly marked in the letter *tā* of the Ganeshra inscription of Ghaṭaka [1] But the letter *da* becomes more slanting and cursive Its top vertical is shortened and the lower one is lengthened and slightly curved towards the right (XVII. 17 ii iii) The letter *dha* (XIX 19 i) is also marked with a triangular top-head and the tip of the loop turns into a circle at the end *Ṇa* continues the older form In some cases the lower and the upper horizontal lines are curved (XIX 19 ii, Pl IV A 16, i) This is an advanced form of this letter

Dentals

The letter *ta* mostly continues its curved form, though at Bhārhut II an angular form is also to be seen (XX. 20 i, ii) The triangular head mark (XV 20 i, XVI. 20 ii, XVIII 20 iv, XXI 20 i Pl IV. A 17 i, ii) seems to be standard in this period *Ta* without any head mark (XVI 20. i) also continues In some cases *ta* with line-head mark is also noticed (XVIII 20 i, ii) But the triangular head mark seems to have become so popular that in its imitation hollow marks were added to this letter (XVIII 20 iii & vi) This is somewhat different from the well known box headed variety of Central Indian script[2]

1 *ASI AR*, 1911 12, pl LVIII 17
2 Cf *CII*, III, pl xlv

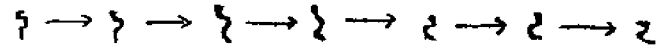
where the main letter is appended to the box-head by means of a vertical line. In this case it can be nothing more than an attempt to initiate the triangle head-mark. In the latter example cited above (XVIII. 20. vi), the shape of the hollow mark is almost triangular, while in the former it is a crude square. The main letter is directly appended to it without a vertical. We find one more *ta* without vertical (XVIII. 20. v), to which two strokes of *o* medial are attached starting from the curve of *ta*.

A circle with a dot in the centre makes the letter *tha*. No change in this period has occurred except that which was necessary with the 'new pen', i. e., varying thickness of the circle (XVIII. 21. i, ii). The letter *tha* on the seal of Hathipāla[1] is somewhat peculiar in shape, (XV. 21. i), having a large triangle head-mark. This may be due to the fondness of the designs for the triangular head-mark. The peculiar shape of the letter *ha* (XV. 38. ii.) in this seal also may be attributed to the same cause.

From the view-point of the development of the letter *da*, this period represents a transitional one. The older form of *da* with an opening to the left continues at Bodh-Gayā (XXII. 22. i), Ayodhyā (XXI 22. i), Bhārhut I (XX. 22. i) Sāñchi III (XVI. 22. i-iii), Hāthigumphā (Pl. IV. A. 19. i-iii) and also in some Mathurā Kshatrapa inscriptions (XVII. 22. iv). The next stage of the development can be seen in the coin Series III (XV. 22. i, ii) and the Pabhosā inscriptions (XIX. 22. i, ii), where the lower vertical starts along with the lower portion of the curve and then takes a turn to the right. In the third stage of the development, the turning of the lower tip of the letter eliminates the middle curve opened to the left and opens a new curve to the right (XVII. 22. iii & v). The final development appears in the coins (XV. 22. iii & vi) and the pre-Kushāna (XVIII. 22. i-iii) inscriptions of Mathurā. The

1. *JNSI*, XXIV, pl. II, 12.

following figure will show these developmental stages at a glance



There is nothing new in the letter *dha* (Plate IV, line 23). The letter *na* also continues its older form, occasionally exhibiting the use of the 'new pen' (XV 24 i, XVIII 24 ii etc.). In some cases the horizontal line takes a curve (XVIII 24 ii-iv, XIX 24 ii, XXI 24. i-ii & Pl IVA 21 iii) This curve becomes more and more prominent in later ages and gives way to newer forms

Labials

Though the attempt to equalise the verticals of *pa* was started in the first century B. C , the Kshatrapas completed the process and gave it a beautiful appearance (XVII 25 i-iv) Usually the left and optionally both the verticals were marked with triangular head-marks and the curve disappeared in favour of angles (Cf Plate IV, line 25) In some cases, at Sāñchi III (XVI. 25. iii) Bhārhut II (XX 25 ii), the curve continues and the left arm remains longer than the right one (see also XVI. 25 i, XX 25 i & XXII. 25 i, ii, XXI. 25 i), though in the latter cases the curve is angularised In Hāthigumphā the right vertical takes an inward turn to give an appearance of *pha* (Pl. IVA 22 ii)

The letter *pha* was also influenced by the 'new pen' (XV. 26 i & XVII. 26 i) though at Ayodhyā it is still curved, with its left vertical longer (XXI 26. i)

Ba retains its square form, with minor change due to the 'new pen' (Plate IV, line 27 and Plate IVA, line 23)

The right hand vertical of *bha* was already straightened in the first century B C In this period this occasionally becomes longer also. Its left hand hook is slightly broadened and beautifully tilted (XVII. 28. iii and XVIII. 28 iii) The

use of the 'new pen' is marked in the varying thickness of the lines.

The letter *ma* of this period shows older forms as well as the most advanced forms met with only in the late first century A. D. At Sāñchī III (XVI. 29. i-iii) Bodh-Gayā (XXII. 29. ii) and Hāthigumphā (Pl. IVA. 25. i, ii.) the lower part of *ma* is a circle, whereas in the Mathurā-Kshatrapa (XVII. 29. i-iv) and pre-Kushāṇa (XVIII. 29. i-iii) inscriptions and also at Pabhosā (XIX. 29. i-ii), Bhārhut II (XX. 29. i), Ayodhyā (XXI. 29. i) and Hāthigumphā (Pl. IVA. 25. iii-iv), we find angular forms. We find a very advanced form of *ma* (XV. 29. ii),[1] on a coin of Amoghabhūti who has been assigned[2] to a date ranging from the first century B. C. to the third century A. D.

Semi-Vowels

We have observed in the earlier chapter that the wedge-shaped and crescented *ya* became rare and the double-curved *ya* was becoming popular. In the early first century A. D. crescented (XV. 30. i; XVI. 30. i. ii; XVII. 30. ii; XIX. 30. i & XXII. 30. ii) and double-curved *ya* (XIX. 30. ii; XXII. 30. i) are also met with. But the Kshatrapas of Mathurā developed a new form of *ya* in which the base of the letter was flattened (XVII. 30. i) This new type of *ya* developed out of the crescented (XVIII. 30. ii) as well as the double-curved (XIX 30. ii, iii; XVIII. 30. iv) form, because we find both types of the broadened *ya*. The two together gave a new shape to this letter, produced by the 'new pen'. The middle vertical was also reduced and equalised to give good effect. All the three verticals of *ya* were given special attention. The left arm develop its line head-mark into a curl and finally into a loop, and the middle arm inclines to the left, while the right presses down

1. *CCAI*, pl. XXIII, 1.
2. Sircar, D. C., *AIU*, p. 161.

wards to balance the loop in the left'.[1] The looped *ya* is to be found in the Kushāna and succeeding inscriptions In this period the Ayodhyā *ya* (XXI 30 i) presents the most advanced form

The letter *ra* is mostly a straight vertical, occasionally with its lower tip turned to the left At the top it has the triangular head-mark (XV 31 i, ii, XVII 31 i, iv, XVIII. 31. i etc.), but sometimes this takes the shape of a small line (XVI. 31 ii, XIX 31 iii). The serpentine *ra* is also seen (XX. 31 i, XXII. 31 i) In some cases the *ā* medial sign is written in the same stroke without lifting the pen (XVIII 31. ii).

The curve of *la* is perfectly angularised in this period though curved forms also persist. Its right vertical is somewhat lengthened, it is usually straight but optionally inclined towards left (XVII 32 ii) or right (XVI 32 i) The hook of the left arm also received special attention in this period, and took various shapes (XVII 32 i, XIX 32. ii, iii, XVI 32 ii).

We have already discussed the letter *la* in the previous chapter[2] where we saw that it was developed out of *ṛa*[3] and not out of *ta* as conceived by Dani.[4] We have also pointed out that the main indication of its being derived from *ṛa* is the vertical of this letter Here, in the Mathurā inscription,[5] this letter has a triangular head-mark (XVIII 33 i) This is a very fine specimen of this letter. Buhler, to whom the credit of reading this letter goes, has confused in reading it in Kushāna inscriptions where he invariably takes this letter to be a conjunct of double *ta* We will discuss this in the next chapter

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1 Dani, *op cit*, pp 87-88

2 Supra, pp 75 76

3 Cf Buhler, *IP*, p 55

4 Dani, *IP*, p 55

5 *EI*, I, pl opposite p 397. No 33

Sibilants and *Ha*

Though *va* with its rounded lower circle still continues in this period in some cases (XVI. 34. ii; XX. 34. ii, XXII. 34. i, Pl. IVA. 29. i, iii), the triangular *va* became the standard form. Its vertical, though continued optionally, is also reduced to the extent of a triangular head-mark. As pointed above, this triangular headmark became so popular, and the replacement of the vertical with something else was thought so necessary, that the triangle was formed deliberately (XVII. 34. iii-vi; XVIII. 34. ii-iv). This gave a new look to the letter, altogether different from the earlier one. However, this form was soon discontinued as it could not get popular sanction. It is noteworthy that such forms appear in the Mathurā fragmentary pillar inscription of Śoḍāsa also.[1]

The angular form of *sa* changed into a fine curved form, exactly in the same manner as in the case of *ga* (see Plate IV, line 35).

The letter *sha* continued its older form and we find no change except that its curve developed into fine angles (see Plate IV, line 36).

The verticals of *sa* are equalised in almost all cases, though at Bhārhut II (XX. 37. i-ii) and Bodh-Gayā (XXII. 37. i) the longer left vertical continues In Hāthigumphā both forms are found side by side (Pl. IV A. 30). The main curve of *sa* is drawn in a single action and then a hook is added at the left. In the most advanced forms of this letter, the curve is angularised (XV. 37. i; XVII 37 iv).

The curve of the letter *ha* is also angularised like *pa* and *sha* (see Plate IV, line 38).

Some Peculiar Formations :

We have already noted above some peculiar formations of the letters *la* and *va* which were attributed to the fondness of

1. *Mem. ASI*, No. 5, pl. XXVI. b.

the writers for the triangular head-mark. But in one Mathurā inscription of an unnamed *Mahārāja Rājātirāja* dated in the year 299 of an unknown era,[1] we find some abnormal forms of the letter *sa* and *ta* Barring these exceptional forms, which are five in number, all other letters are normal and are attributable to the first century A. D From Mathurā comes another inscription of a *Mahārāja*[2] dated in the year 270 of some unknown era Luders attributed this inscription to the same king *Mahārāja Rājātirāja*,[3] and assigned it to 'early Kushāna times'[4] Its palaeography is quite normal

The letter *ta* of *ārhatana* in line 1, read by Buhler as a compound letter *nta*,[5] has a triangular *va*—like formation appended to it (XVIII 41, iv) Similarly there are four *sa* letters—*sarvasīdhana* in line 1, *savachchhare* in line 1, *sate* in line 1 and *sāvikā* in line 3, which also have such *va*—like appendages (XVIII 41, v-vi) There are, however, two other *sas* in the second line in the words *māsa* and *divasa* which are quite normal R D. Banerji,[6] referring to J Ph Vogel who suggested that these may be abnormal forms of the letter, due to the caprice of the mason, observes that the *ta* of *ārhataha [m]* must also similarly be regarded as abnormal

COMPOUND AKSHARAS

In the period under reference, the following conjuncts are noticed in the inscriptions

1 Groups with initial guttural

(a) *ksha* (XVII 39 i, XVIII 39 i)

(b) *gra* (XVII. 39 ii)

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1 *IA*, XXXVII, 34, pl III, opposite p 66

2 Lüders, *MI*, p 162-63, pl on p 305

3 *Ibid*, p 163

4. *Ibid*, p. 161.

5. *IA*, XXXVII, 33

6 *Ibid*, p 34.

2. Groups with initial palatal:

(a) *jña* (XV. 39. i-ii; XIX. 39. i; XXI. 39. i)

(b) *jva* (XVII. 39.iii)

(c) *chchha* (XVIII. 39. ii)

3. Group with initial lingual:

(a) *ṭṭā* (XVII. 39. v)

4. Groups with initial dental:

(a) *tra* and *tre* (XV. 39 iii and 40. i; XVI. 39. i; XVII 39. iv; XVIII. 39. iii; XIX. 39. iv; XXI. 39. ii; XXII. 39. i).

(b) (i) *ttra* and *ttra* (XIX. 39. i-iii).
(ii) *ttrā* (XIX. 39. ii).

(c) *tsa* (XVII. 39. vi).

(d) *dra* (XV. 40. ii; XVII. 39. vii; XVIII. 39. iv, v; XXII. 39. ii).

(e) *dvi* (XXI. 39. iii).

(f) *dhra* (XV. 40. iii).

(g) *nha* (Pl. IV. A. 32. i).

5. Groups with initial labial :

(a) *pla* (XV. 41. i).

(b) (i) *pra* (XVIII. 39. vi).
(ii) *prā* (XVIII. 40. i).
(iii) *pri* (XVII. 40. i).
(iv) *prī* (XVII. 40. ii).

(c) *brā* (XVII. 40. iii).

6. Groups with initial semi-vowel :

(a) (i) *rga* (XVIII. 40. ii).
(ii) *rcha* (XVII 40. iv).
(iii) *rta* (XVII. 40 v).
(iv) *rdha* (XVII. 40. vi).
(v) *rma* (XXI. 40. i).

(vi) *rya* (XVII 40. vii)
(vii) *rva* (XVIII 40. iii).
(viii) *rsha* (XVIII 40. iv).

(b) *lgu* (XXI 40 ii)

(c) *vri* (XVII 40 i)

7. Groups with initial sibilants

(a) *śchi* (XVII 40 ii)

(b) *śva* (XV 41. ii, XXI. 40 iii)

(c) *shka* (XVII 41 iii)

(d) (i) *shthā* (XVII. 41. iv).
(ii) *shthe* (XXII 41 i)

(e) *shya* (XXI. 41. ii)

(f) *sta* (XVII 41. v).

(g) (i) *stha* (XVII 41 v, XVIII 41 vi)
(ii) *sthi* (XVIII 41 v)

(h) *sva* and *svā* (XVII 41 vii, 42. v)

(i) *sya* (XVII 42. vi, XVIII. 41 i-iii, XIX 41 i-ii, XXI 41. iii)

(j) *hma* (XVII 42 vii)

Some comments are required to explain a few of these combinations We find the secondary *ra* sign in various forms In some cases it is a straight line, as in Sāñchi III and Bodh-Gayā, while in other cases its lower tip is turned towards the left and rarely towards the right (XIX. 39. iv) For the secondary *ri*, a downward slanting stroke is added at the bottom of the letter *va* (XVII 41. i). The initial *ra* sign is always a straight vertical line in a compound letter The secondary *va* is always attached to the primary letter by its middle vertical

Medial signs

The medial signs also developed side by side with the letters of this period The horizontal dash of *ā* medial, though it continued in this period, becomes a slanting stroke, or some-

times is slightly curved (XVIII. 24. iii). Sometimes, as in the case of *rā* (XVIII. 31. ii), the medial is written along with the main letter in a single stroke. The *i* medial developed into a beautiful flourish, though its curved form is also seen. Its standard form generally inclines towards the left but in some ornamental forms it takes an outward turn (XV. 8. ii & 24. ii; XVIII. 29. iii etc.). The long *ī* medial is represented by two such flourishes which very often take a U or broadened V shape which are specially to be marked in the Hāthigumphā keeping in view its socalled early date assigned by earlier scholars (Pl. IV A. 6. iii; 30. iii). The *u* medial is represented in many ways. In a letter like *ma* it is attached to the bottom, while in *pa*, *sa*, etc., it is added in the alignment of the right vertical; specially in *pa*, it is most interesting where its lower tip is turned to the left. In *ra* it appears as a horizontal dash. For long *ū*, an additional stroke is added (XVIII. 25. iv and XIX. 25. iv). These are sometimes written in one movement of the pen. The medial sign for *e* is a horizontal dash attached to the left of the letter. This form continues at Bhārhut II (XX. 22. i) and Ayodhyā etc. But its advanced form is an upwards shooting stroke slanting towards the left above the head-mark of the letter (XV. 22. iii). Two strokes to the right and left separately mark the medial *o*. Sometimes a single line extending to the left and right of the vertical of the letter serves the purpose, e.g. *gho* (XVII. 9. ii); *po* (XVI. 25. iii), *bho* (XVI. 28. ii), *ko* XXII. 27. i), etc. In advanced forms, the strokes become more slanting, and may emerge either from one point (XVIII. 20.v & XV. 9. ii-iii; XVII. 9. iii) or from two different points as in *ko* (XVII. 27. i). An additional third stroke to the *o* medial makes it *au* (XVIII. 35. iv). In *kau*, at Ayodhyā (XXI. 6. ii), it takes a beautiful form.

The *anusvāra* represented by a dot, takes various positions, above the letter (XVIII. 38. iv), to the right of the letter (XXII. 24. i) or to the upper right half of it (XXII. 2. i-ii; XX. 24. i) etc..

The *visarga*, shown in the form of two dots placed one upon the other, comes to the right of the letter (XXI. 20. ii, XXI 24. ii).

Punctuation Marks

In the Mathurā inscription of the year 299, we find two small dashes placed one upon the other (XVIII 42 vi) This sign occurs twice in the inscription, once in the second line after the numerals of the year and again in the fourth line after a word [1] R D Banerji rightly regards it as a punctuation mark [2]

Numerals

In these inscriptions, we meet signs for the following numerals

1—(XVIII 42. ia)
2—(XVIII 42 ib & XVII. 42 i)
9—(XVII. 42 ii & XVIII 42 ii)
10—(XVIII 42 iii)
70—(XVII 42 iii)
90—(XVIII. 42 iv)
200—(XVIII. 42 v)

The sign for 1 and 2 are one and two parallel strokes respectively, while the sign for 9 in one case roughly resembles an interrogation mark (XVII 42. ii), and in the other resembles the compound letter *dra* R D. Banerji observes[3] about the latter that it is similar to the other signs for the numeral 9, the only difference being that its lower tip turns to the right whereas in the normal forms it takes a left turn The sign for 10 is a *ma* with its opening to the right A symbol ৭ has

1 *IA*, XXXVII, 34 & pl facing p 66
2 *Ibid*, p 34
3 *Ibid*

been taken as the sign for the numeral 70. We will discuss this in detail in the next chapter, where we find some more signs for it. A circle with a cross inside it makes the sign for 90. An *ā* like formation represents the sign for 200.

Conclusions

It will appear from the discussions above that the period of the first century A. D., which is marked by the introduction of a new writing tool, opens new horizons for the future development of the Brāhmī script. Combined with the natural instinct for ornamentation and the necessity of the flow in the writing, it gave way to various developments which took place in the coming centuries and shaped the Brāhmī script into many regional varieties. This marks a turning point in the history of Brāhmī script.

5 Buhler, G , Mathura Votive tablet of the time of Śodāsa, year 72, *Epigraphia Indica*, Vol II, pp 199 ff.

IV. Pre-Kushana Inscriptions of Mathura :

1 Mathura Inscription the year 299, *Indian Antiquary*, Vol 37, pl facing p 66

2 Mathura Inscription of (Dhru)vamitra, *Epigraphia Indica*, Vol X Pl facing p 107, no I

3 Ganesabara Inscription of Ghataka, *Archaeological Survey of India, Annual Report*, 1911-12, pl LVIII no 17

4 Mathura Inscriptions (New Series) nos 30-32, *Epigraphia Indica*, Vol II

5 Stone Bowl Inscription from Mathura, *Epigraphia Indica*, Vol XIX, Pl facing p 67, no VI

V. Pabhosa Cave Inscriptions .

1 *Epigraphia Indica*, Vol II, Pl facing p 242 and 243

VI Bharhut Gateway Inscription :

1 *Memoirs of the Archaeological Survey of India*, No 1

VII. Ayodhya Inscription of Dhanadeva :

1 Sircar, D C , *Select Inscriptions* Pl XI.

VIII. Bodh-Gaya Railing Inscriptions :

1 Cunningham, A , *Mahabodhi*, Pl X

IX Hathigumpha Inscription of Kharavela :

1 Sircar, D C , *Select Inscriptions*, Book II, No 91, p 213 ff and Pls XXXVII-XXXVIII

CHAPTER VI

THE PERIOD OF ACCELERATED DEVELOPMENT

(From A.D. 78 to A.D. 200)

By the time Kanishka appeared in Indian history, script was no longer a thing of the kings, their officers and their scribes. It was handled and popularised by a number of people. The truth of this statement can be realised from the fact that the number of offical records of this period is much less than that of the individual ones.[1] One of the obvious consequences of this was that more and more writers emerged to make their contributions to the Brāhmī script. The individual habits, likes and dislikes, and methods of forming every letter developed several varieties. By now the writing appears to have become a necessity for which swiftness was counted as an additional quality. Out of this emerged cursive forms. In northern India, where writing activities were more intense than in any other part of the country, the writers were more interested in the swift flow of the hand than in symmetry or ornamentation such as we see in the inscriptions of Nagarjunikonda[2] and Bijayagadh.[3] Places like Sāñchī, Mathurā, Kauśāmbī, Sārnāth, Śrāvasti etc. developed into important centres of writing activity, soon producing their own styles. During the period under review the Brāhmī script of northern India can be recognised to have become divided into two distinct schools of east and west. Mathurā became a centre for the western

1. See bibliography at the end of the chapter.
2. Cf. *SI*, Pl. XI.
3. Cf. *CII*, III, Pl. XXXVI, Nos. B & C.

style while Kauśāmbi led the eastern regions Even though the difference in these two schools was limited only to a few letters, the distinction is clear

One notable feature of the inscriptions of this period in northern India is that most of them are dated The inscriptions of Kanishka and his successors are reckoned in an era said to have been started in A D 78 by Kanishka [1] The inscriptions of Kanishka are dated between the years 2–23, i e A D 79 to A D 101 He was succeeded by Vāsishka or Vashushka whose inscriptions discovered from Mathurā[2] and Sāñchi[3] are dated in the years 24 and 28 corresponding respectively to A D. 102 and A D 106 He may be identified with *rājana* Vaskushāna of the Sāñchi inscription of the year 22,[4] who after the death of Kanishka appeared with full regal titles of *mahāraja rājātiraja devaputra shāha* Vāsishka in the Mathurā inscription of the year 24 He has also been identified with Vajheshka, the father of Kanishka II of the Ārā inscription of year 41[5] It may not be true that he and his son Kanishka II ruled conjointly with Huvishka [6] because we find the inscriptions of Huvishka starting from the year 28 It may be that he was ousted by Huvishka from the Mathura and Sāñchi region about this year i e, A D 106 and established himself in the western part of the Kushāna empire where we find his son Kanishka II ruling in the year 41 i e A D 119 If this is acceptable, the Kushāna empire may be assumed to have been split up for a short period and Huvishka had to concentrate his attention mainly on the western part This explains the absence of Kushāna records in the eastern region, which was probably left uncared for and may have slipped away from the hands of

1 *AIU*, pp 43 44
2 Luders, *MI* pp 125 29 & pl on p 295
3 Bühler, *EI*, II, 369, pl facing p 368
4 Marshall, *MS*, pl XXXVIII, No 53
5 Sircar, D C, *AIU*, p 150
6 *Ibid*, p 150

the Kushāṇas.[1] The Wardak Bronze Vase[2] inscription of Huvishka of the year 51, i.e., A. D. 129, presents no difficulty to our suggestions because ten years time would be sufficient to quell the rebellion. The rebellious nature of Vāsishka can be suggested from the Sāñchī inscription of year 22, where he assumes the title of king and does not mention Kanishka as his overlord as was done by others like Mahārāja Māsyaguta, a contemporary feudatory of Kanishka, in the Curzon Museum inscription of the year 23.[3] It may be noted here that in his old age Kanishka seems to have engaged himself in 'an unfortunate expedition in the north, probably against the Chinese in Central Asia'.[4] Kanishka's failure may have inspired Vaskushāna to usurp power and assume full regal titles.

The inscriptions of Huvishka range between the years 28 and 60, i.e., A. D. 106 to A. D. 138.[5] The Kushāṇa inscriptions bearing the name of Vāsudeva range between the years 64 (or 74 ?) and 83, and, therefore, he can be assigned a reign up to A. D. 161, though other inscriptions of the Kushāṇa series date up to the year 98, i.e. A. D. 176.

Apart from the inscriptions of the Imperial Kushāṇas, we also find inscriptions of other kings dated in some unspecified era. The inscriptions of the Magha kings of Kauśāmbī and those of mahārāja Bhīmasena and the rulers of his line from the Bāndhogarh area are dated in the era believed to be the *Śaka-kāla* started by Kanishka in A. D. 78.[6] Another inscription, found from Kailvan (Bihar), also bears a date which

according to Sircar[1] is in the Śaka era of A D 78 The palaeography of these inscriptions confirms the identification of the eras as Śaka, but it is not easy to agree with the suggestions of Sircar that the use of Śaka era indicates that Bihar formed a part of the Kushāna empire.[2] Dani rightly observes that 'the use of this era in no way implies the subordination of the rulers of Kauśāmbi to the Kushānas, but merely shows the continuation of a system of dating that was made popular by Kanishka in this region' [3] The absence of Kushāna records in the eastern regions after Kanishka suggests that these parts soon overthrew their Kushāna rulers The Kushāna method of mentioning the day and the season was never copied by these rulers [4]

For our study we have selected those dated inscriptions which may be placed before A. D 200

Dani rightly observes that it is not possible to speak of a uniform Kushāna style as applicable throughout their empire during their rule [5] Some particular writing styles were developing in certain localities and the Kushānas preferred to employ local writers for their records It is due to this reason that we find the eastern and western varieties of some letters in the Kushāna records The Brāhmī script was thus given a chance to develop in two respects, that is to say, in time and space With this consideration in mind we have classified the selected inscriptions according to regions and arranged them in convenient groups.

The inscriptions from Mathurā and its surroundings including those of Sāñchi region, form one class and are labelled as Western Style (Plate V) These are further classified into

1 *EI*, XXXI, 230
2 *Ibid*, p 231
3 *IP*, p 90
4 *EI*, XXXI 176 also fn 3
5 *IP*, p 78

'Official' and 'Private' groups. The official group contains those inscriptions which bear names of the Kushāṇa kings while the private ones do not. We are aware of the difficulties of such a nomenclature, because all the inscriptions having the name of a Kushāṇa king are not official in the strict sense of the term, but this seemed to be a convenient name as opposed to the private. Some official records are very well written and exhibit the skilled hand of the royal scribes, while the private ones show a variety of hands - skilled and unskilled. These are further analysed and arranged into tables. The tables under the Western Style are arranged as follows :[1]

Table No. XXIII The Mathura inscriptions mentioning Kanishka, dated between the Śaka years 5 and 23. This includes the Mat statue inscription of Kanishka, which is undated.

Table No. XXIV The Mathura and Sāñchi inscriptions mentioning Vāsishka and Huvishka, dated between the Śaka years 24 and 60.

Table No. XXV The inscriptions mentioning Vasudeva, dated between the Śaka years 64 (74 ?) and 83.

Table No. XXVI Private inscriptions from Mathura dated between the Śaka years 4 and 22.

Table No. XXVII Private inscriptions from Mathura dated between the Śaka years 25 and 98.

Table No. XXVIII The Sāñchi inscription of Vaskushana dated in the Śaka year 22. This inscription deserves a separate palaeographical treatment because of its advanced nature and

1. A complete list of references of the inscriptions utilised can be seen at the end of the chapter. The numbering of the Tables continues from Plate I.

peculiar forms of some letters like *sa* and conjuncts *sku* and *sya* etc.

The inscriptions of the Eastern Style analysed and arranged on Plate VI are as follows

Table No	XXIX	The inscriptions mentioning Kanishka dated between the Śaka years 2 and 19 from Sārnāth, Kosam and Śrāvasti
Table No	XXX	The inscriptions of Kushāna times from the eastern region
Table No.	XXXI	Two Mathura inscriptions of Kanishka, dated respectively in the years 4 and 14.
Table No	XXXII	Mathura inscription of Huvishka, dated in the year 33.
Table No	XXXIII	Inscriptions from the Kosam, Bāndhogarh and Bihar regions.

The last table, including the inscriptions of Bhimasena and his successors from the Bāndhogarh area, dated 51 and onwards, shows the mixed style which is also influenced by the styles of Mathura and the south[1]. But as the majority of the letters resemble the style of the Kosam region, this group is included in the Eastern Style.

The inscription of the Kanishka year 14 is one of the most disputed records of the Kushāna history Various scholars have reacted in various ways to its palaeography We will quote here some of their views D. R. Sahni observes :[2]

> 'The characters used belong to the Brāhmī alphabet of the Kushāna period. It must, however, be noted that the *m* everywhere shows the advanced form of the Gupta

1 Cf. also Dani, *IP*, p. 91

2 *EI*, XIX, 96.

period with a small knob attached to the left of the letter instead of the triangular base. Similarly the *akshara* 'h' assumes the form peculiar to the eastern variety of the Gupta script in which the horizontal base-stroke is completely suppressed, the hook of the *akshara* being sharply turned to the left. The *anusvara* is throughout represented by a short horizontal stroke instead of the usual dot'.

N. G. Majumdar[1] holds that palaeographically it is impossible to refer this inscription to Kanishka I, that is to say to the early Kushāṇa period, as its alphabet shows predominantly 'Gupta' forms.

On account of the advanced form of some letters in this inscription, its date has been doubted,[2] and several synchronisms have been suggested leading to the existence of many Kanishkas and of 'the Kanishka legend.'[3]

Very recently, one more inscription from Mathura has come to light which is dated in the fourth year of mahārāja Kanishka, and bears, to quote D. C. Sircar, 'the so-called eastern Gupta variety of the letters *ma* and *hi*'.[4] Sircar assigns this inscription to Kanishka I and places it in A. D. 81—82.

The Mathura inscription of Huvishka of the year 33 also bears some advanced forms of the letters *ma* and *sa*.[5]

Our analysis on Plate VI (Tables XXXI, XXXII & XXXIII) will show that we need not go as far as the 'Gupta'

1. *EI*, XXIV, p 148, fn. 4.
2. Please refer to the discussion on pp. 70-71 of B. N. Puri's *BK*.
3. Sircar, D. C., *AIU*, p. 146.
4. *EI*, XXXIV, p 9.
5. Cf. the Plate in the *EI*, VIII, facing p. 182.

characters to explain these peculiarities. As suggested by Dani,[1] these peculiarities 'can be explained' by placing them 'side by side with the inscriptions from the Kosam region'.

If the authorship of Mathura inscription of the year 4 can be attributed to Kanishka I, and if the Mathura inscription of Huvishka of the year 33 may be assumed to refer to the same Huvishka whose inscriptions date between the years 28 and 60, without the necessity of postulating the existence of another Huvishka, why should a second or third Kanishka be imagined simply on the basis of the palaeographic peculiarities of some letters in the inscription of the year 14 ? We will discuss these peculiar letter formations while dealing with the letters individually, but we want to emphasize here that, on palaeographic grounds only, a third Kanishka need not be introduced and the reading[2] of the date in this inscription also should not be doubted On epigraphic evidence, we can think only of two Kanishkas, Kanishka I as the founder of the Kushāna glory,and Kanishka II, the son of Vajheshka of the Ara inscription of the year 41.

Palaeographic Contribution of the Period :

The Brāhmī script of the first century A. D exhibits a very rapid and varied growth, especially in north India No doubt the introduction of a definite pen-style by the Mathura Śaka Kshatrapas was responsible for it to some extent, but the main credit of this development should go to the people who

1 *IP*. p 79

2 Cf Puri, B N , *op. cit* , p 71, who claims to have examined the estampage and the original inscription and found that both the symbols for 10 do not bear much difference He is satisfied that the symbol is for the numeral 10 But, however, he feels it to be 'an era of omitted hundreds' and pleads the case for another Kanishka. Its reading as for the numeral 50 by V V. Mirashi, *EI*, XXVI, 270 ff, and B Ch Chhabra, *ABORI*, XXXIII, 270 ff, cannot be accepted Also cf Sahni, *EI*, XIX,97 where he observes that 'the present inscription is clearly dated in the year 14 of that king'

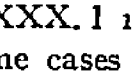
showed deeper interest in the art of writing. The large number of private records show the attempt of many people to reproduce the accepted forms in various ways. Several new apprentices must have entered the field and those who were skilled in the art diverted their attention to the increase of speed. This was responsible for the evolution of cursive forms. The more active centres of writing evolved more cursive forms than the less busy ones, resulting in many varieties. From this point of view, Mathura, the busiest centre of political and religious activities during the period, must have taken the lead in this field. The earliest specimens of the so-called 'eastern variety' of the letters *ma*, *ha* and *sa* are found in the inscriptions from Mathura. It is not likely that the two Mathura inscriptions of Kanishka, dated in the years 4 and 14, and the Mathura inscription of Huvishka dated in the year 33 were written by writers imported from Kausambi or any other place from the eastern region. On the other hand, the Sarnath, Sahet-Mahet and Kosam inscriptions of the time of Kanishka do not show the advanced forms of these letters, even though they are differentiated in respect of the head-mark. The only conclusion which can be inferred from this is that these forms were evolved by the skilled writers of Mathura. In what circumstances these forms came to Kausambi and developed into a regional style, during the reigns of the Magha rulers, is not clear. But once accepted in this area, these forms of the Brāhmī script developed with accelerated speed.

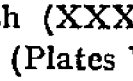
In the inscriptions of north India we observe that speed or swiftness was the main consideration, thus producing cursive forms, and ornamentation was only secondary. The change of the triangular head-mark into a line head-mark may be mainly due to this reason. The dot for *anusvāra* and some-times three dots of *i* also similarly changed into short lines. The flourishes of the medials were also simplified.

With these introductory remarks, we may take up individual letters and trace their development.

VOWELS

Among, the vowels, the form of *a* varies much The vertical of the letter is generally bigger than the two strokes at the left The lower tip of the vertical is sometimes inclined to the right or to the left This feature, though found in a few cases (XXIV. I. i & XXVII I iii) only, deserves mention because in the later period it is much elaborated In these inscriptions the left arm of *a* received much attention. Dani[1] distinguishes two main varieties of this letter, viz. curved and angular. He notes that 'in both the varieties, the upper left stroke becomes important, but while in the cursive variety this upper stroke slants downwards to meet the vertical and the lower stroke maintains its curved form, in the angular one, the upper stroke makes an angle before meeting the vertical and tries to assimilate the lower stroke, which sometimes appears below the line' The best example of the cursive variety is met with in the Sarnath inscription of Aśvaghosha (XXX. I i), the left strokes in the angular form develop in some cases into a single line attached to the vertical by a dash (XXXIII I. iv). Many intermediary forms are also found (Plates V and VI, line I) The following figure will show the two lines of development

Cursive forms 

Angular forms · 

Though the use of three dots for *i* (XXX. 2 i-iii) continues in some places, we often find three short lines in place of these dots Two short lines are placed one upon the other and the third one is a vertical short line to the right of these two (XXVII 2 i-ii) In a private inscription from Mathura, we find one peculiar formation which has been read by Buhler[2] as *i*. This is formed of a vertical with two dots on either side (XXVII 2 iii). Such forms occur in the southern caves of the

1 *Op cit*, p 86.

2 *EI*, II, p 204.

mid-second century A.D. Again, we find this form in the Hatcha inscription[1] of Kinvarman, of the sixth century A. D. There it has been read as *t*. It may be suggested that here also it denotes the same sound.

The initial *u* sometimes bends its base downwards, but in the medials this bend is very advanced (XXVII, 6, i and iii), and in some cases it is extremely curved (XXVII, 6, iv). Lohuize-De Leeuw takes these forms to belong to the post-Kushāṇa period.[2] But her conclusions are based on the assumption that in dating some Kushāṇa inscriptions the first digit is omitted,[3] a thesis which Dani rightly rejects on palaeographic grounds.[4]

The apex of the triangle of *e* is mostly to the left, which is more or less a standard form of this letter. The middle vertical of *o* is inclined.

a majority of letters In the Sāñchī inscription of Vaskushana (XXVIII. 39 i) the angle is more prominent

The triangular base of *kha* now becomes more prominent and is almost standardised In some cases, the upper hook of *kha* is less emphasised.

The round topped *ga* becomes the standard form of the period Its left leg received much attention by appending to it a line foot-mark, which in some cases extends on both sides but in others only inwards (XXVII 8 i, XXIX 8 ii and XXIV 8 i, XXXIII. 8. i-ii).

Gha is fully angularised in standard forms. Its vertical is generally straight, but in advanced forms the left vertical is slightly bent (XXXIII. 9. ii)

The letter *na* never occurs alone, we find it only in conjunction with *ga* and *gha* (XXVI. 39 i and ii).

Palatals

The beaked type of *cha* is the most accepted form of this period and appears with many variations (Plates V & VI, line 10). The triangular and quadrangular looped *cha* are also met with (XXVIII. 10. i, XXIII 10. i-ii). Optionally the mouth of the loop of *cha* is open as in the Kosam inscription (XXXIII. 10. i)

As regard the letter *chha*, the double-looped variety seems to be most popular (Plate V and VI, line ll). The letter *ja* maintains its angular form with its vertical sometimes curved inwards. In some cases, the angular variety of *ja* is also found (XXVI 12 i-ii and XXVII 12 i) The lowest arm of *ja* occasionally bends downwards. *Jha* and *ña* continue their older forms, the latter is mostly to be seen in conjuncts (XXVIII 39. ii, XXX 39. ix & 40. i etc)

Linguals

The letters *ṭa* and *ṭha* maintain their previous forms, but whenever *ṭa* is joined with *i* or *u* medial, it shows a cursive hand.

The Kshatrapa type of *ḍa* continues (XXIII. 17. i) in some cases it develops a round back opened to the right (XXVI. 17. i).

In the advanced form of *ḍha* the base flattens and the curve develops into a loop (XXIII. 18. i; XXVI. 18. i). In the later variety the line head-mark is more marked.

The letter *ṇa* appears in many forms, which seem to be the outcome of the cursive hand. These show various stages of development, starting from the simple Aśokan type of *ṇa* having both the horizontal lines straight (XXIX. 19. ii) to the looped variety (XXVI. 19. i). In the inscriptions of Ko-am-Bandhogarh region, the open-mouthed variety of *ṇa* is also found in conjuncts (XXXIII. 39. v-vi).

Forms of *ṇa* [illegible]

Dentals

The lower appendage of *ta* is rounded in almost all the forms In some cases its vertical shortens and sometimes it is totally eliminated where the *o* madial starts immediately above the back of the curve (XXVII. 20. iii). Both triangular and linear head-marks are seen in this period, In the Kanishka inscriptions of the years 4 and 14 (Table XXXI), the linear head-mark is more prominent, but this can be seen in the private inscriptions from Mathura also.

The letter *tha* shows little change and the older form continues.

Da with its curve open to the left (XXX. 22. ii) becomes rare. The angular backed *da* with two curves are also found

(XXXI 22 ii and XXXIII 22 iii), but in its later development the lower appendage is dropped and the cursive form again revives a round back, but this time the curve opens to the right. This form becomes standard. In Kosam-Bandhogarh region both forms are optionally used.

Dha exhibits many forms with its curve at the left of the vertical angularised Round-backed *dha* is also seen (XXV 23. i, XXXII 23. i), but the angular *dha* seems to be the most accepted form.

Na bends its base to various degrees In some cases it goes to the extent of resembling the letter *ta* (XXXIII 24 ii) Such forms are more frequent in the Kosam-Bandhogarh area

Labials

Pa occurs only in its angular variety, with its left arm curved in some cases. In the majority of cases only the left arm receives the head-mark, and the medial signs for *ā*, *i*, *o* etc are generally attached to this arm. Sometimes the base line is also slightly bent

The letter *pha* also occurs only in the angular variety with a head-mark

Ba retains its square shape, but in the Kosam region its left side is slightly bent (XXXIII, 27. i), in the later period this feature develops into a notched variety of *ba*.

Bha develops on two distinct lines. Dani[1] distinguishes two types of this letter According to him in the first type 'the middle bar slants upwards and the right arm is elongated, both making an angle at the apex'. He calls this the angular type of *bha*. In the second type, 'the middle bar is elongated and finally notched, with two curved arms at either end'. This he calls a notched *bha* The development of the two forms are traced as follows :

1. *Op cit*, p 87.

Angular type : [illegible]

Notched type : [illegible]

The most frequent type of *ma* of this period is formed of a triangular base with its arms making a St. Andrew's Cross. But the older type of *ma*, with circular or triangular-looped base and with curved arms, is also seen. This letter develops further with striking speed and completely changes its face. It plays upon its triangular base which 'first flattens out and then the triangle is placed on one side. In one case the base of the triangle merges with the longer arm, producing a tailed *ma*. In the other case the apex of the triangle opens and we get an open-mouthed *ma*.'[1]

A. [illegible]

B. [illegible]

The advanced forms of *ma* are seen in the Mathura inscriptions of Kanishka and Huvishka and in the inscriptions of Kosam-Bandhogarh area (see Plate VI, line 29), side by side with the older forms. It is not possible to trace any big gap between these forms.

Semi-Vowels

The letter *ya* flattens its base and appears in various forms. 'This base bends gracefully to give differential effect to the three uprights, which received special attention. The left arm develops its line head-mark into a curl and finally into a loop, and the middle arm inclines to the left, while the right presses downwards to balance the loop in the left'.[2] (See plates V and VI, line 30 for these forms). In sub-script, this tripartite form changes itself into a bi-partite or hooked form. We will notice this while dealing with the conjuncts.

1. Dani, *op. cit.*, p. 53.
2. Dani, *op. cit.*, pp. 57-58.

Ra is mostly a straight tapering vertical with a triangular or line head-mark Occasionally its lower tip is bent Very rarely we find a stepped variety of *ra* (XXX 31 i), reminding us of a serpentine *ra*, which is optionally used in subscript or super-script (XXX. 39. i and 41 viii)

The right vertical of *la* is usually straight; sometimes it is gently curved towards the left. As we have noticed earlier, the left hook of *la* had taken an angular shape in the Kshatrapa period. Now it further develops and does away with the small tick, which now appears in the form of a hook pointing downwards (XXXI 32 i, XXXIII 32 i) This most advanced type of *la* appears for the first time in the Kanishka inscription of the year 14 and again met with in the Magha inscriptions

The letter *la* (Plate V, line 33) has a significant history of its decipherment Though it was first noticed by Buhler in the Kshatrapa inscriptions, already dealt with in the previous chapter, he could not give proper treatment to this letter in the Kushāna records Wherever this letter appears, he deciphered it as a conjunct of double *ta* Others also followed Buhler [1] But whenever two *ta*s are conjoined, they are placed one upon the other and linked by a small vertical line (XXVI 39. iii, XXVII 42 i, XXXIII. 39 iv) Luders, in his *Mathura Inscriptions*, reads this letter as *la* [2] As regards its origin, we are convinced that this letter is derived from the letter *ra*[3], and Dani's[4] derivation is not acceptable

The triangular form of *va* became the standard form of this period, though the private inscriptions from Mathura show some other forms also (XXVII 34 ii-iv, XXVI 34 iii) The vertical of the letter shortens and in many cases disappears

1 E g, Banerji, R D, *EI*, X, 110, No 3, line 2 etc, Sahni, D R, *EI*, XIX, 67, No IV, line 3.

2 P. 46 etc

3 Supra, p 75

4 *Op cit*, p 55

(Plates V & VI, line 34), but the triangular or the line head-mark persists. Emphasized triangular head-mark of Kshatrapa period does not appear as it could not become popular.

Sibilants & *Ha*

The curved form of *ha* is standardised and, like *ga*, it also develops a triangle or line foot-mark (XXVI. 35. ii; XXVII. 35. ii, iii & v).

The letter *sa* also takes a rapid course of change. First the upper curve of *sa* takes a definite angle (XXVI. 37. i) although it does not play an active part in the process of changes. The change takes place when the left hook of *sa* becomes a part of the left stroke and is attempted in a single action. This process produces first a small knob and then a loop.

The letter *ha*, already angularised in the Kshatrapa period, also changes very rapidly. Its insignificant tick to the right first curves, then straightens the original curve of the letter and finally replaces it, changing the shape of the letter entirely (Plates V & VI, line 38).

COMPOUND AKSHARAS

The important conjuncts are found in the following groups :

1. Groups with initial gutturals :

   A. (a) *kka* (XXVIII. 29. i)
   (b) *kkha* (XXIII. 41. iii; XXXI. 39. i)
   (c) *kta* (XXX. 39. iii)
   (d) *kra* (XXX. 39. i)
   (e) *kri* (XXX. 39. ii)
   (f) (i) *ksha* (XXIV. 39. i; XXX. 39. iv)
   (ii) *kshi* (XXIII. 41. iv; XXX. 39. v)
   (iii) *kshu* (XXVII. 40. vii; XXXII. 32. i)
   (iv) *kshe* (XXXIII. 29. i).

B (a) *gni* (XXX 39. vi)
(b) *gra* (XXIV 39. ii)
(c) *gri* (XXIII 39 i, 41 v, XXIV. 41 i XXVI 40 v 41 i XXX 39 vii, XXXII 39 ii, XXXIII 39 ii)

To show the subscript *ri*, the right leg of *ga* is slightly elongated and then turned to the left, while to denote a *ri* subscript, a slanting stroke is added to the right leg Sometimes this stroke takes different shapes (XXVI 41 i XXXIII 39 ii) These forms of the subscript *ra* or *ri* are followed in almost all letters

C (a) *nga* (XXVI 39 i)
(b) *ñgha* (XXVI 39. ii)

2 Groups with initial palatals

A *chchha* (XXVI 39 iv)

B. *chhri* (XXX 39 viii)

C (i) *jnā* (XXX 39 ix)
(ii) *jno* (XXVIII 39 ii, XXX 40 i)

D *ñcha* (XXX 40 ii XXXIII 39 iii)

3 Groups with initial lingual

A (i) *ttā* (XXXIII 39 iv)
(ii) *tti* (XXVII 42 i)
(iii) *tto* (XXVI 39 iv)

B (i) *nda* (XXV 39 ii XXIX 39 iii, XXXI 39 ii)
(ii) *ndha* (XXXIII 39. v)
(iii) *nya* (XXXIII. 39. vi)
The open mouth *na* in the last two examples deserve special notice

4. Groups with initial dental

A. (a) *tkri* (XXX 40 iv)
(b) *tvo* (XXIV 39 iii)

(c) (i) *tra*(XXIII. 39. iii; XXV. 39. i; XXVII. 42. ii; XXX. 40. iii; XXXI. 38. iii; XXXII. 39. iii)

(ii) *tri* (XXVI. 39. v)

(iii) *tre* (XXIX. 39. ii; XXXII. 40. i; XXXIII. 40. i)

(iv) *tro* (XXIII. 39. ii; XXV. 40. iii)

(v) *tri* (XXVII. 42. v)

It is not difficult to distinguish between the subscript *ra* and *ri*. *Ta* with hollow head-mark is noticeable in Huvishka's inscription (XXXII. 39. iii).

(d) *tsa* (XXXI. 39. iv; XXXIII. 40. ii and iii).
Ta is combined with a developed form of *sa* as well as older *sa*.

B. (a) *dgi* (XXXIII. 40, iv)

(b) (i) *ddha* XXIV. 39. iv; XXIX. 40, i; XXXI. 40. i; XXXII. 40. ii)

(ii) *ddhi* (XXXIII. 40. v)

(iii) *ddhya* (XXIX. 40, ii; XXXI. 40. ii)

(c) *dbhuk* (XXX. 40. v)

(d) *dya* (XXVIII. 40. i; XXX. 40. vi)

(e) (i) *dra* (XXVI. 40. ii)

(ii) *dri* (XXVI. 40. iii)

(f) (i) *dva* (XXVII. 39. ii)

(ii) *dvi* (XXV. 40. i)

(iii) *dve* (XXVII. 39. i)

Da with its curve open to the left is noteworthy in this period (XXX. 40 vi). The subscript *ya* appears both in its tripartite and bi-partite forms. The course of their development is traced while dealing with the conjuncts with initial *sa*.

C (a) *nte* (XXXII. 40. iii)
(b) *ndi* (XXVII 39 iii-iv)
(c) *ndra* (XXVII 41 vii)
(d) *nnri* (XXIV 39. v)
(e) *nyū* (XXX. 40. vii)

5 Groups with initial labial

A. (a) *pña* (XXVII 39. v) a wrong combination,
(b) *pta* (XXX 40 viii)
(c) (i) *pra* (XXV. 39 iii, XXVIII 40 ii, XXX 40 ix, XXXI 40. iii).
(ii) *prī* (XXIV 39 vi, XXX 40 i)
(iii) *pro* (XXIV 39 vii)
(iv) *pri* (XXVI 40 iv)

B *bra* (XXVI 42. i)

C. (a) *bhrā* (XXVII 41 v, XXXIII. 41. i)
(b) *bhri* (XXX 41. ii)

D (i) *mba* (XXVII 40. v)
(ii) *mbu* (XXIV 40. i)

6. Groups with initial semi-vowels

A. (i) *yya* (XXVII. 40. i)
(ii) *yyo* (XXVII 39. vi)

B (a) *rnna* (XXVII. 42 iii)
(b) *rtih* (XXX. 41 iii)
(c) *rtha* (XXIX. 40. iii, XXXI. 40. iv XXX. 41 iv with *visarga*)
(d) (i) *rtha* (XXIV. 40. iv, XXV 40 iv, XXX. 41. v)
(ii) *rthi* (XXX 41 vi)
(e) *rddha* (XXVI 42. ii, XXX. 41 vii)
(f) (i) *rma* (XXX 41. ix)
(ii) *rmma* (XXXIII 41. ii)

(g) *ryya* (XXIII. 39. iv; XXVI. 40 i; XXVII. 39. vii; XXI. 41. i; XXXIII. 41. iii).

(h) (i) *rva* (XXIV. 40. iii; XXX. 41. viii)

(ii) *rrva* (XXIII. 39. v; XXV. 40. ii; XXVII. 40. ii-iii; XXVIII. 41. i; XXXI. 41. ii-iii).

(i) *rsha* (XXV. 39. iv; XXX. 42. i; XXXIII. iv)

C. (a) *lla* (XXIX. 41. i; XXXIII. 41. v)

D. (a) *vri* (XXIV. 40. ii; XXVII. 40. iv; XXX. 42. ii)

7. Groups with initial sibilants :

A. (a) *ścha* (XXIX 41. ii)

(b) *śya* (XXXVI. 41. ii; XX. 42. v)

(c) (i) *śra* (XXVII. 41. vi)

(ii) *śrā* (XXVI. 41. iii)

(iii) *śri* (XXXIII. 42. i)

(iv) *śri* (XXIV. 40. v; XXX. 42. vi; XXXIII. 41. vi)

(d) *śva* (XXX. 42. iii-iv)

B. (a) (i) *shka*, (XXIV. 40. vi; XXIX. 42. i; XXXI. 41. iv; XXXII. 41. i)

(ii) *shko* (XXIII. 40. iii)

(b) (i) *shṭā* (XXIV. 40. vii; XXVIII. 41. ii)

(ii) *shṭo* (XXX. 42. vii)

(c) (i) *shṭha* (XXIII. 50. ii)

(ii) *shṭhā* (XXIX. 41. iii; XXXI. 42. i)

(d) *shma* (XXXIII. 42. ii). curved type of *sha* is to be marked here.

(e) *shyo* (XXIII. 40. i)

C. (a) *shu* (XXVIII. 42. i)

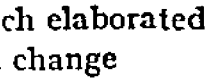
(b) *scha* (XXVI. 41. iv)

(c) *stu* (XXVII. 42. iv)

(d) *smiṅ* (XXXI. 42. ii)

(e) *sya* (XXIII 40 iv-v, 41 i, 42. i, XXIV 41 i-iii, XXV. 41. ii-iii, XXVI. 41. v, XXVII 41 i-iv, XXVIII. 42 ii, XXIX. 42. ii, XXX. 42. ix, XXXI 42 iii-iv, XXXII. 41 ii-iii, 42 i-ii, XXXIII 42. iii-iv)

The formation of *sa* in *sku* (XXVIII 42 i) and *sya* (XXVIII 42 ii) where the left hook turns upwards is a peculiar one Different stages of the development of subscript *yā* from the tripartite form into a bi partite form can be noticed in these conjuncts Below, we give the main stages in summarised form



Medial Signs

The system of medial signs used in the pre-Kushāna inscriptions (Plate IV, Table No XVIII), discussed in the pre ceeding chapter,[1] was much elaborated in this period However, there was no fundamental change

The dot denoting *anusvāra* was occasionally replaced by a short dash and was generally put above the letter However, a dot for the *anusvāra* also continued.

The visarga continues its older form

Punctuation Marks

In private inscriptions of Mathura, a vertical line is sometimes found and can be taken as an inter-punctuation mark.

Numerals

The earliest use of numerals is found in the inscriptions of Aśoka,[2] where only 4, 6, 50 and 200 are used. But in the period of the Mathura Kshatrapas and Kushānas we find an extensive use of numerals

1. *Supra*, p. 104 ff

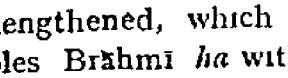
2 Upasak, *HPMB* , p 122 ff.

Pt. Bhagwanlal Indraji[1] and Bühler[2] are convinced that these numerals are based on the *akshara*s or syllables of the Brāhmī script. A superficial observation of these signs leaves no doubt about the correctness of the views of these scholars. But when individual signs are carefully studied, one feels that, though particular letters or conjuncts were originally used as symbols for definite numbers, no pains were taken to stick to the original forms and these numerals developed independently.[3] In some cases, it is almost impossible to trace the original shape; for example, compare some forms of 3, 10, 50 etc. on Plates V and VI. Again, it may also be pointed out, even if it goes against the *Akshara* theory,[4] that though the letter *tha*[5] is said to denote the number 20,[6] another form of this letter, a vertical line inside the circle, denotes the number 80; and a combination of the middle lines of 20 and 80, i. e., a plus mark inside the circle, makes it 90. This means that these signs do not point to any letter or conjunct but stand by themselves. Secondly, in the Aśokan inscriptions, there are at least three different signs for 200[7] and not all of them can be equated with the Brāhmī letter *su* or *sku*. In our opinion the origin of these numerals may possibly be traced in one or the other letter, but no connection between the letter and the

denomination that it represents can be established, these letters were simply utilised as convenient symbols and evolved very rapidly.

The numerals 1, 2 and 3 are expressed by horizontal strokes, numbers 4-9 & 10-90 & 100 have separate signs for each To express 200 a short stroke is added to the right side of the sign for 100.[1]

The sign for 4 resembles the Brāhmī letter *kī* (XXVI 43 11), but in the majority of the symbols, the so-called long *ī* medial finds its place to the left of the vertical Numeral 5 resembles the Brāhmī letter *ñi* of this period In the Gupta period the hook at the right changes its place and comes to the left, Indraji takes this for the conjunct *tri*.[2] The symbol for 6 resembles the cursive form of Brāhmī *ja* It changes its shape very frequently and, in the Bandhogarh inscriptions, appears in a peculiar form (XXXIII 44. i-ii) The sign for 7 resembles *ga* with its right leg lengthened, which Indraji takes for *gra*. The numeral 8 resembles Brāhmī *ha* with its right hook lengthened A very cursive form of this numeral is found in the Kailvan inscription[3] (XXXIII. 44. iii) Possible stages of such a transformation are restored here.



We are not sure about the letter that served as the model for the symbol for 9 Indraji[4] takes it for the letter *o*, which is not likely in this period However, we find many variations of it (XXIV. 44 i a and b, XXVI. 44, XXVII 43 v, XXIX. 43 ii-iii, XXX. 43 ix)

The sign for 10 in many inscriptions resembles clearly the Brāhmī letter *ma* with its open side to the right (XVIII 42. iii, XXIV. 43 ii b, XXV. 43 iv, XXVI. 44 iii-iv, XXVII 43. vi,

1 Bühler, *IA*, VI 155, and *IP*, p 97

2 *IA* VI p 46, cf also his chart on p 44, column IV, line 5

3. *EI* XXXI 230

4 *Op. cit*, p 46

XXVIII, 43. ii, XXIX. 44. i). From other cases it appears that various formations developed out of this sign (XXIII. 44 i-ii; XXIV. ii a; XXVII. 43. vii; XXIX. 44. ii, XXXI. 48. ii-iv, XXXIII. 43 iv). It is not possible to agree with Indraji[1] that this numeral resembles *la*, because in *la* we always have a head-mark, which is lacking here. (Cf. Plate V line 33 *ibid.*)

As indicated above, the numbers 20, 80 and 90 are formed by a circle with a horizontal, a vertical line and a cross inside it respectively. Many varieties emerge out of this form, e. g., see XXV. 44. iii; XXVII. 44. vii for 80 and XXVI. 44. v, XXVII. ia & b; XXVIII. 44. i for the numeral 20.

The sign for 30 resembles Brāhmī *la* but its right vertical is some times equal to the left one (XXIV. 44. iv a & b, and also XXXII. 48. iii).

There has been much confusion regarding the sign for the numerals 40, 60 and 70. The sign for 40 resembles the compound letter *pta* of Brāhmī, which Bühler sometime reads as 70.[2] And the sign for 60 resembles Roman capital letter V which again has been mistaken by Bühler for 40.[3] The sign for 70 resembles a St. Andrew's cross.[4]

The numeral for 50 may be taken to resemble the *jihvā-mūliya*, but put in a different position (XXIV. 43. vi; XXVII. 43. iv a and b).

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4. Inscription of Kanishka year 8, *EI*, Vol XVII p 10
5. Inscription of Kanishka year 9, *IA*, Vol XXXIII, p 37, no 6, pl on *ASR*, (Cunningham), Vol III, p 31, no 4
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5. Mathura Inscription of year 83, *JBAS*, Vol. V, p. 184, no. 6.

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8 Inscription of year 47, *EI*, Vol I, p 396, no 30
9 Inscription of year 49, *FI*, Vol II p 204, no 20
10 Inscription of year 50, *EI*, Vol II, p 203, no 17
11 Inscription of year 50, *EI*, Vol II, p 209, no 36
12 Inscription of year 52, *EI*, Vol II p 203, no 18
13 Inscription of year 54, *EI*, Vol I, p 391, no 21
14 Inscription of year 63, *EI*, Vol II Vol II, p 204 no 21
15 Inscription of year 77, *JRAS*, Vol V, p 183, no 2
16 Inscription of year 81, *EI* Vol II, p 204, no 19
17 Inscription of year 86, *EI*, Vol I, p 388, no 12
18 Inscription of year 87, *EI*, Vol I, p 388, no 13
19 Inscription of year 90 *FI*, Vol II, p 205, no 22
20 Inscription of year 92, *EI*, Vol XXXIV p 11
21 Inscription of year 93, *EI*, Vol II, p 205, no 23
22 Inscription of year 95, *EI*, Vol I, p 392, no 22
23 Inscription of year 98, *EI* Vol II, p 205, no 24

VI. Sāñchī Inscription of Vaskushāna : year 22 :

Marshall, J , *MS*, Vol III, pl CXXXVIII, no 53

VII Sarnath, Sahet-Mahet and Kosam Inscriptions of Kanishka :

1 Kosam Inscription of Kanishka year 2, *EI*, Vol II, p 212
2 Sarnath Inscription of Kanishka year 3, *EI*, Vol VIII, pp 176 79
3 British Museum Inscription of Kanishka year 10, *EI*, Vol IX, p 240
4 Sahet Mahet Inscription of year 19, *EI*, Vol VIII p 181
5. Sahet Mahet Umbrella Staff Inscription, *EI*, Vol X, p 291

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2 Sarnath Inscription of Aśvaghosha year 40, *EI*, Vol XXIV, p 172
3 Prahaldpur Pillar Inscription, Fleet, J F, *CII*, Vol III, p 250, pl XXXVI A

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2 Inscription of Kanishka year 14, *EI*, Vol XIX, p 97

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2. Kosam Inscription of Bhadramagha : year 81, *EI*, Vol. XXIV, p. 256.
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5. Kosam Inscription of Bhadramagha; year 88, *EI*, Vol. XVIII. p. 160, no. 3.
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7. Inscriptions from Bandhogarh, *EI*, Vol. XXXI, pp. 167-86.
8. Kailvan Inscription of Viśākhamitra : year 108, *EI*, Vol. XXXI, p. 231 ff.

HOW TO CONSULT TABLES

Explanation Tables

Every table of explanation has six columns. The first one contains the serial number of the letters illustrated in the table. The second column bears numbers which are indicative of the horizontal lines in the plates. The column three has number in small Roman indicating the vertical subcolumn of the table on the given plate. In the next column the transliteration of the illustrated letter is given while in the fifth one that word is given in which that particular letter occurs. The sixth column gives reference. In the beginning of every explanation references are quoted, and every reference is given a separate code in the form of alphabet or number. In this column small l denotes the line of the inscription in reference.

19	17	i	na	Dasalathana	I.	1.1
20	18	i	pi	Pi	II.	last letter of I.1
21	20	i	bha	Bhadahtehi	I.	1.3
22	20	ii	bhā	Kubhā	III.	1.1
23	20	iii	bhi	Abhiutena	II.	1.2
24	21	i	ma	Āchahdama	III.	1.4
25	22	i	ya	Vahiyaka	I.	1.1
26	22	ii	yā	Nisadiyāya	I.	1.3
27	24	i	li	Suliyam	I.	1.4
28	25	i	vā	Vāsa	I.	1.3
29	25	ii	vi	Jivikehi	III.	1.3
30	27	i	si	Abhiutena	I.	1.2
31	27	ii	su	Suliyam	III.	1.4
32	28	i	hi	Vahiyaka	I.	1.1

Explanation of Table II. Plate I

Mahāsthān Inscription

Ref : *Sircar, D. C., SI, vol. VIII [illegible] p. [illegible]*
Key : 1. *[illegible]*
2. *[illegible]*

1	1	i	a	Atiyāyika	I.	line 6
2	3	i	e	E [illegible]	I.	1.1
3	3	ii	e	Eka	I.	1.6

4	4	i	ka	Atıyayıka	1	1 5
5	4	ii	ke	Kehı	2	1 6
6	4	iii	ko	Kosam	1	1 6
7	5	i	kha	Sulakhıte	1	1 2
8	6	i	ga	Nagalate	2	1 2
9	6	ii	gı	Samvagıyanam	2	1 3
10	6	iii	gı	Sa[m]vagıy[a]nam	1	1 1
11	6	iv	gam	Gamda	1	1 5
12	11	i	ṭha	Koṭhagale	1	1 6
13	12	i	da	Pudanagalate	1	1 2
14	12	ii	da	Gamda	1	1 5
15	13	i	tı	Vahıpayısatı	1	1 3
16	13	ii	tı	Dagatıya	1	1 4
17	13	iii	te	Sulakhıte	1	1 2
18	13	iv	te	Nagalate	1	1 2
19	15	i	da	Dagatıya	1	1 4
20	15	ii	dı	Sapadına	1	1 1
21	16	i	dha	Dhanıya	1	1 4
						(restored)
22	17	i	nı	Dhanıya	1	1 4
23	17	ii	nam	Samvagıyanam	1	1 3
24	18	i	pa	Vahıpayısatı	1	1 3
25	18	ii	pı	Pı	1	1 5
26	18	iii	pu	Pudanagalate	1	1 2
27	21	i	ma	Mate	1	1 2
						(restored)
28	22	i	ya	Sa[m]vagıy[a]nam	1	1 1
29	22	ii	ya	Dagatıya	1	1 4
30	22	iii	yı	Vahıpayısatı	1	1 3
31	24	i	la	Sulakhıte	1	1 2
32	24	ii	la	Pudanagalate	1	1 2
33	24	iii	le	Koṭhagale	1	1 6
34	25	i	va	Vahıpayısatı	1	1 3
35	25	ii	va	Samvagıyanam	1	1 3
36	27	i	sa	Sa[m]vagıy[a]nam	1	1 1
37	27	ii	sa	Esa	1	1 6
38	27	iii	sı	Kası	1	1 5
39	27	iv	su	Sulakhıte	1	1 2
40	27	v	su	Suatıyayıka	1	1 5
41	27	vi	sam	Samvagıyanam	1	1 3
42	28	i	hı	Vahıpayısatı	1	1 3

Explanation of Table III Plate I

Sohgaurā Bronze Plaque Inscription

Ref *JASL YVII 1952 plate I*

1	1	i	a	Atıyayıka	line 4
2	3	i	e	Ete	1 2
3	4	i	ka	Ka	last letter of 1 1
4	4	ii	ka	Bhalakana	1 3
5	4	iii	ko	Koṭhagalanı	1 2
6	6	i	ga	Koṭhagalanı	1 2
7	7	i	gha	Tıghavanı	1 3
8	8	i	cham	Chamchu	1 3
9	8	ii	chu	Chamchu	1 3

10	9	i	chha	Chha	last letter of 1.3
11	11	i	tha	Kotharallini	1.2
12	13	i	ta	Sravatyana	1.1
13	13	ii	ta	Mayavasita	1.1
14	13	iii	te	Sthavite	1.2
15	13	i	tha	Mathura	1.3
16	15	i	da	Dave	1.2
17	15	ii	da	Modhima	1.3
18	15	iii	da	--	last letter of 1.2
19	17	i	na	Manavasita	1.1
20	17	ii	na	Kotharallini	1.2
21	17	iii	na	Ispikasa	1.3
22	17	iv	na	Nagabatavaya	1.4
23	19	i	bha	Bhagavata	1.3
24	21	i	ma	Mahamayana	1.1
25	21	ii	ma	Mathura	1.3
26	21	iii	ma	Gama	1.2
27	21	iv	ma	Mathura	1.3
28	22	i	ya	Kayapati	1.4
29	22	ii	ya	Mayavata	1.4
30	22	iii	ya	Mayavata	1.4
31	23	i	la	Mathura	1.3
32	23	ii	la	Kotharallini	1.2
33	23	iii	la	Sthavite	1.2
34	24	i	va	Manavasita	1.1
35	24	ii	va	Sravatyana	1.1
36	25	iii	va	Dave	1.2
37	27	i	sa	Sravatyana	1.1
38	27	ii	sa	Savane	1.1
39	27	iii	sa	Manavasita	1.1
40	28	i	ha	Mahamayana	1.1
41	28	ii	hi	Gahatavya	1.4
42	29	i	—	Symbol above the inscription.	
43	29	ii	--	" "	"

Explanation of Table IV. Plate I

Piprāhvā Vase Inscription

Ref : *Sircar, D. C., SI, PL IV*

1	2	i	i	Iyaka
2	4	i	ka	Sakyabhikuna
3	4	ii	ka	Sakyana
4	4	iii	ka	Sukiti
5	6	i	pa	Bhagavata
6	6	ii	pa	Sakyaputtana
7	13	i	ta	Sapata
8	13	ii	ta	Sukiti
9	13	iii	ta	Bhagavata
10	15	i	da	Dasana
11	16	i	dha	Nadhana
12	16	ii	dha	Bodhana
13	17	i	na	Sakyaputtana
14	17	ii	na	Sakyana

15	17	iii	ni	Nidhane
16	17	iv	ni	Sabhaginikana
17	17	v	ne	Nidhane
18	17	vi	nam	Bhatinam
19	18	i	pu	Saputa
20	19	i	bu	Budhasa
21	20	i	bha	Bhagavate
22	20	ii	bha	Bhatinam
23	20	iii	bha	Sabhaginikana
24	22	i	ya	Iyam
25	22	ii	ya	Sakiyana
26	24	i	la	Salila
27	24	ii	la	Dalana
28	24	iii	li	Salila
29	25	i	va	Bhagavate
30	27	i	sa	Salila
31	27	ii	sa	Budhasa
32	27	iii	sa	Sabhaginikana
33	27	iv	sa	Saputa
34	27	v	su	Sukiti

Explanation of Table V Plate I

Rāmgarh Hill Cave Inscriptions

Ref ASI AR, 1903-04, Pl XLIII

S = Sitabengā inscription
J = Jogimarā inscription

1	1	i	a	Adipayamti	S, ibid	1 1
2	1	ii	a	Alamga	S, ibid	1 1
3	3	i	e	Evam	S, ibid.	1 2
4	4	i	ka	Kavayo	S, ibid	1 1
5	4	ii	ka	Śutanuka	J, ibid	1 3
6	4	iii	ku	Kudasphatam	S, ibid	1 2
7	5	i	khe	Lupadakhe	J, ibid	1 5
8	6	i	ga	Garu	S, ibid	1 1
9	13	i	ta	Śutanuka	J, ibid	1 3
10	13	ii	ta	Rātayam	S, ibid	1 1
11	13	iii	ti	Yasamtiya	S, ibid	1 2
12	13	iv	ti	Adipayamti	S, ibid	1 1
13	13	v	te	Hasavanubhute	S, ibid	1 2
14	13	vi	tam	Tam	J, ibid	1 4
15	14	i	tha	Kamayitha	J, ibid	1 4
16	15	i	da	Hadayam	S, ibid	1 1
17	15	ii	di	Adipayamti	S, ibid	1 1
18	15	iii	di	Devadine	J, ibid	1 5
19	15	iv	du	Dule	S, ibid	1 2
20	15	v	de	Devadina	J, ibid	1 5
21	17	i	na	Nama	J, ibid	1 3
22	17	ii	nu	Śutanuka	J, ibid	1 3
23	17	iii	nu	Hasavanūbhūte	S, ibid	1 2
24	18	i	na	Lupadakhe	J, ibid	1 5
25	18	ii	pa	Adipayamti	S, ibid	1 1
26	19	i	ba	Balana	J, ibid	1 4
27	20	i	bha	Sabhava	S, ibid	1 1
28	20	ii	bhu	Hāsavanubhūte	S, ibid	1 2
29	21	i	ma	Nama	J, ibid	1 3
30	21	ii	ma	Kamayitha	S, ibid	1 4

31	21	iii	ma	Nama	J, ibid.	1.5
32	22	i	ya	Adipayanti	S, ibid.	1.1
33	22	ii	yā	Vasantiyā	S, ibid.	1.2
34	22	iii	yi	Kamayitha	J, ibid.	1.4
35	22	iv	ye	Balamareye	J, ibid.	1.4
36	22	v	yo	Kiwayo	S, ibid.	1.1
37	22	vi	yaṁ	Hadyaṁ	S, ibid.	1.1
38	23	i	rā	Rātayaṁ	S, ibid.	1.1
39	23	ii	ru	Sabhāvagaru	S, ibid.	1.1
40	24	i	la	Balana	J, ibid.	1.4
41	24	ii	le	Dule	S, ibid.	1.2
42	24	iii	li	Lupalakhe	J, ibid.	1.5
43	24	iv	lam	Abadiga	S, ibid.	1.2
44	25	i	va	Vasantiyā	S, ibid.	1.2
45	25	ii	vā	Hisāvānubhute	S, ibid.	1.2
46	25	iii	vaṁ	Evaṁ	S, ibid.	1.2
47	26	i	ti	Devadhikya	J, ibid.	1.3
48	26	ii	tu	Śatanuka	J, ibid.	1.3
49	26	iii	te	Balanareye	J, ibid.	1.4
50	27	i	sa	Sabhāvagaru	S, ibid.	1.1
51	19	ii	sa	Hisāvānubhute	S, ibid.	1.2
52	19	iii	sya	Vasantiyā	S, ibid.	1.2
53	20	i	ha	Hadyaṁ	S, ibid.	1.1
54	20	ii	hā	Hisāvānubhute	S, ibid.	1.2
55	21	i	ṭha	Kuḍaphataṁ	S, ibid.	1.2
56	21	ii	kyi	Devadhikya	J, ibid.	1.3

Explanation of Table VI. Plate II.

Besnagar Pillar Inscription of Heliodorus

Ref : *Narain, A. K., IG. Plate VI. 2*

1	1	i	a	Ayaṁ	line 1
2	1	ii	ā	Āgatena	1.4
3	2	i	i	Ia	1.2
4	3	i	u	Upanitā	1.5
5	5	i	o	Heliodorena	1.2
6	6	i	kā	Sakāsaṁ	1.5
7	6	ii	ki	Amtalikitasa	1.5
8	6	iii	ke	Takhkha ilikena	1.3
9	6	iv	ko	Kosi	1.6
10	8	i	ga	Bhāga	1.2
11	9	i	cha	Chatudasena	1.7
12	9	ii	chā	Chāsa	1.9
13	10	i	ja	Mahārija	1.4
14	10	ii	je	Rājena	1.5
15	11	i	ña	Raña	1.5
16	13	i	thi	Anuthitāni	1.8
17	14	i	ḍa	Garuḍa	1.1
18	15	i	na	Heliodorena	1.2
19	16	i	ta	Takhkhasilikena	1.3
20	16	ii	tā	Upanitā	1.5
21	16	iii	tu	Neyaṁti	1.9
22	18	i	da	Chatudasena	1.7
23	18	ii	dā	Dāsa	1.8

24	18	iii	du	Dutena	1 4
25	18	iv	do	Deva	line 1
26	18	v	do	Heliodorena	1 2
27	19	i	dha	Vadhamanasa	1 7
28	20	i	na	Dasena	1 7
29	20	ii	ni	Trini	1 8
30	20	iii	nu	Anuthitani	1 8
31	20	iv	ne	Neyamti	1 9
32	21	i	pa	Padāni	1 8
33	21	ii	pu	Putrena	1 3
34	22	i	bha	Bhagabhadrasa	1 6
35	22	ii	bha	Bhagav	1 2
36	23	i	ma	Maharajasa	1 4
37	23	ii	ma	Manesa	1 7
38	23	iii	mu	Amuta	1 8
39	24	i	ya	Diyasa	1 3
40	24	ii	yo	Yonadutana	1 4
41	24	iii	ya(m)	Neyamti	1 9
42	25	i	ra	Tratarasa	1 6
43	25	ii	ra	Rājena	1 7
44	25	iii	ri	Karite	1 2
45	25	iv	re	Heliodorena	1 2
46	26	i	la	Takhkhasilakena	1 3
47	26	ii	li	Amtalikitasa	1 5
48	27	i	va	Vadhamanasa	1 7
49	27	ii	va	Va[sude]vasa	1 1
50	28	i	sa	Va[sude]vasa	1 1
51	28	ii	si	Takhkhasilakena	1 3
52	28	iii	si	Kosiputrasa	1 6
53	29	i	ha	H[e]liodorena	1 2
54	29	ii	hā	Maharajasa	1 4
55	30	i	khkha	Takhkhasilakena	1 3
56	30	ii	dhva	Dhvaja	1 1
57	30	iii	tra	Tratarasa	1 8
58	30	iv	pra	Apramada	1 9
59	30	v	sva	Svagam	1 8

Explanation of Table VII Plate II

Coins Series I

	Ref			*Allan*	*Catalogue of the Coins of Ancient India*
				JRAS	*Journal of the Royal Asiatic Society*
1	1	i	a	Ataktaka	Allan, Pl XXXI 7. rev,
2	1	ii	a	Agathuklaye	
3	3	i	u	Upagodasa	Allan, XXXV 12 obv
4	4	i	e	Erak [/]	*JRAS*, 1900 Pl VII 7
5	6	i	ka	Dojaka	Allan, Pl XXXI 6 rev
6	6	ii	ka	Kadasa	,, XIX, 15
7	6	iii	ki	Udehiki	,, XXXV 16 obv
8	7	i	kha	Kha	Rapson, *JRAS* 1895 p
9	8	i	ga	Negama	Allan XXXI 2 obv
10	8	ii	ga	Negama	,, 7 obv
11	8	iii	go	Upagodasa	XXXV 18 obv,
12	8	iv	go	Go	Rapson, *JRAS* Pl I 17

13	10	[illegible]	[illegible]	Ja	,, ,, PL I. 15-16
14	10	[illegible]	ja	Devaka	Allan, XXXI. 6, rev.
15	12	[illegible]	ta	Vatsavaka	,, XXXIX. 2. obv.
16	14	[illegible]	da	Kiliya	,, XIX. 15
17	16	[illegible]	ta	Pattadasa	
18	16	[illegible]	ta	Tdrasa[ra or sa]	,, XXXI. 1. rev.
19	16	[illegible]	ti	Upatikyā	Allan, XXXV. 19
20	17	[illegible]	thu	Avathukiye	
21	18	[illegible]	da	Upagodasa	Allan, XXXV. 18 obv.
22	18	[illegible]	da	Udibaka	,, ,, 16 obv.
23	18	[illegible]	do	Donaka	,, XXXI. 6 rev.
24	19	[illegible]	dha	Dhammapāsa	,, XVIII. 6
25	20	[illegible]	ne	Nemma	Allan, XXXI. 2
26	20	[illegible]	ne	Nemma	,, XXXV. 1. obv.
27	21	[illegible]	pa	Upagodasa	,, XXXV. 18 obv.
28	21	[illegible]	pi	Upatikyā	,, XXXV. 19. obv.
29	23	[illegible]	ma	Nemma	,, pl. XXXI. 1. obv.
30	24	[illegible]	ya	Ya	Rapson, *JRAS*, 1895. pl.I.1
31	24	[illegible]	ye	Avathukiye	
32	24	[illegible]	yo	Yo	Rapson, *JRAS*,1895. pl.I.1
33	25	[illegible]	ra	Ra[ja]	
34	25	[illegible]	ra	Pra[ja]	*JRAS*, VII. 7
35	25	[illegible]	r	Iapna	Allan, XXXV. 11
36	26	[illegible]	la	Pattadasa	
37	26	[illegible]	la	Tdrasa [ra or sa]	Allan, XXXI. 1. rev.
38	27	[illegible]	va	Pattadasa	
39	2[illegible]	[illegible]	va	[illegible]	Allan, XIX. 15
40	[illegible]	[illegible]	[illegible]	[illegible]	Allan, XIX. 1[illegible]
41	28	[illegible]	sa	Pattadasa	
42	29	[illegible]	ha	Udibaka	Allan, XXXV. 16 obv.
43	30	[illegible]	kha	Avathukiye	
44	30	[illegible]	khi	Upatikyā	Allan, XXXV. 19, obv.
45	30	[illegible]	sva	Vatsavaka	Allan, XXXIX. 2

Explanation of Table VIII. Plate III

Coins and Seals : Series II

Ref : CCM Catalogue of the Coins of Ancient India by Allan
Rarh : Excavations at Rarh by K. N. Dutt

1	1	[illegible]	[illegible]	Arjunāyanānām	CCM, pl. XIV. 11
2	3	[illegible]	u	Uttamadatta	ib d. pl. XXIV. 15
3	7	[illegible]	ka	Trikata	ib d. pl. XXIX. 10
4	7	[illegible]	ko	Kosabi	ib d. p. XCIX
5	9	[illegible]	go	Gomatasa	ib d. pl. XXV. 1
6	9	[illegible]	go	Gomatasa	ib d. pl. XXV. 5
7	10	[illegible]	cha	Vachchachosa	Rarh, pl. XXVI. 6
8	12	[illegible]	chha	Vachchabhata	ib d.
9	12	[illegible]	chha	Vachchadatta	ib d. pl. XXVI. 24
10	13	[illegible]	ja	Arjunāyanānām	CCM, pl. XIV. 11
11	13	[illegible]	ja	Vasthajanānām Jaya	ib d. pl. XXXIX. 10
12	13	[illegible]	ja	Rajaka	ib d. pl. XXIX. 13
13	13	[illegible]	ra	Arjunāyanānām	ib d. pl. XIV. 13
14	14	[illegible]	dha	Mathura[illegible]	ib d. pl. XXIV
15	15	[illegible]	[illegible]	Rāsabha	ib d. pl. XXIX. 15

16	18	i	da	Trakata Janapadasa	CCAI, pl XXIX. 10
17	19	i	ḍha	Dadhamitasa	ibid, pl XLIII 16
18	21	i	ta	Sūyamitasa	ibid, pl XIX 12
19	21	ii	ta	Gomitasa	ibid pl XXV. 4
20	21	iii	ta	Gomatasa	ibid pl XXV 9
21	21	iv	ta	Purushadatasa	ibid pl XXIV 1
22	21	v	ti	Satimitasa	ibid pl XX 1
23	21	vi	ti	Bahasatimi	ibid pl XX 3
34	23	i	da	Śeshadatasa	ibid. pl XLIII 18
25	23	ii	da	Janapadasa	ibid pl XXIX 18
26	23	iii	de	Vishnudevasa	ibid pl XIX 13
27	24	i	dha	Yaudhaya	ibid pl XXXIX 10
28	25	i	nā	Arjunāyanamām	ibid pl XIV 11
29	26	i	pa	Janapadasa	ibid pl XXIX 16
30	26	ii	pa	Senāpatisa	Rairh, pl XXVI 6
31	26	iii	pu	Purushadatasa	CCAI, pl XXIV 1
32	28	i	ba	Bahasatimi	ibid pl XX 2
33	28	ii	bi	Śibi	ibid p CXXIV
34	28	iii	bi	Kosabi	ibid p XCIX
35	29	i	bhū	Balabhūtisa	ibid pl. XXV 22
36	30	i	ma	Gomatasa	ibid pl XXV 4
37	30	ii	ma	Brahmam[i]trasa	ibid pl XIX 11
38	30	iii	mā	Mālavānā	Rairh, pl XXVI 1
39	30	iv	mi	Sūyamitasa	CCAI, pl XIX 12
40	31	i	va	Arjunāyanānām	ibid pl. XIV 11
41	31	ii	ya	Sūyamitasa	ibid pl XXV 21
42	31	iii	yo	Yaudheyānām	ibid pl XXXIX 10
43	32	i	rā	Rāmadalasu	ibid pl XXIV 6
44	32	ii	ru	Purushadatasa	ibid pl XXIV 1
45	33	i	la	Balabhūtisa	ibid pl XXIV 22
46	33	ii	la	Mālavāna	Rairh, pl XXVI 1
47	35	i	va	Vishnudevasa	CCAI, pl. XIX 13
48	35	ii	va	Vachhaghosa	Rairh, pl XXVI 6
49	35	iii	vā	Mālavāna	ibid pl XXVI 1
50	35	iv	vi	Vishnudevasa	CCAI, pl XIX 13
51	36	i	śa	Seshadatasa	ibid pl XLIII 18
52	36	ii	śi	Sibi	ibid p CXXIV
53	37	i	sha	Purushadatasa	ibid pl XXIV 1
54	38	i	sa	Vishnudatasa	ibid pl XIX 13
55	38	ii	sa	Bahasatimi	ibid pl XX 2
56	38	iii	sa	Dadhamitasa	ibid pl XLIII 16
57	38	iv	sa	Purushadatasa	ibid pl XXIV 1
58	38	v	su	Suyamitasa	ibid pl XIX 12
59	38	vi	su	Suyamitasa	ibid pl XXV 21
60	39	i	ha	Bahasatimi	ibid pl XX. 2
61	39	ii	hā	Mahārājasa	ibid pl XXXIX. 10
62	40	i	jña	Rājña	ibid pl XXIV 10
63	40	ii	tra	Brahmam[i]trasa	ibid pl XIX 11
64	40	iii	tra	Trakata	ibid pl XXIX 10
65	40	iv	bra	Brahmam[i]trasa	ibid
66	40	v	bra	Brahmamita	ibid pl XXV 13
67	40	vi	shnu	Vishnudevasa	ibid pl XIX 13
68	40	vii	hma	Brahmam[i]trasa	ibid pl XIX 11

24	13	[illegible]	ja	Jevata	CXXVIII, 17
25	13	[illegible]	ja	Vemajakesa	CXXX, 127 C. E.
26	13	[illegible]	jā	Pāṭivanvā	CXXVIII, 28
27	13	[illegible]	jī	Vajeṭṭaka	CXXVIII, 11
28	14	[illegible]	jhā	Sāhiye	CXXX, 139
29	14	[illegible]	jhi	Majhimasa	CXXX, 162
30	15	[illegible]	ña	Dhañaya	CXXVIII, 2
31	15	[illegible]	ñā	Ñāti	CXXIX, 91
32	16	[illegible]	ṭa	Paṭa	CXXX, 110
33	16	[illegible]	ṭe	Kekateyaka	CXXVIII, 17
34	17	[illegible]	ṭha	Poṭhadevāsa	CXXVIII, 21
35	17	[illegible]	ṭhi	Paṭṭhasaka	CXXVIII, 2
36	18	[illegible]	ḍa	Kaṇḍaḍigāmaya	CXXVIII, 30
37	18	[illegible]	ḍi	Vaḍavāmaka	CXXVIII, 10
38	19	[illegible]	ḍha	Vuḍhamaka	CXXVIII, 31
39	19	[illegible]	ḍhi	Avaḍhisa	CXXXX, [illegible]
40	20	[illegible]	ṇa	Hoḷhaṇya	CXXIX, 93
41	21	[illegible]	ta	Arahata	CXXVIII, 1
42	21	[illegible]	ti	Chiratesa	CXXIX, 95
43	21	[illegible]	ṭi	Ñāti	CXXIX, 91
44	21	[illegible]	tu	Bhatu	CXXVIII, 2
45	21	[illegible]	to	Vidavāmato	CXXVII, 10
46	22	[illegible]	tha	Tiṭṭhā	CXXIX, 94
47	23	[illegible]	da	Dasa	CXXVIII, 7
48	23	[illegible]	di	Dinna	CXXVIII, 11
49	23	[illegible]	du	Dhanu	XXXX, [illegible]
50	23	[illegible]	de	Deva	XXXX, [illegible]
51	23	[illegible]	do	Vedisa	XXVIII, 1

52	23	vi	de	Sonadevāya	CXXXI 181
53	24	i	dha	Dhamagirikasa	CXXVIII 18
54	24	ii	dhi	Budhilasa	CXXXIII 7
55	24	iii	dhu	Madhuvana	CXXX, 144
56	25	i	no	Gahapatino	CXXVIII 4
57	25	ii	nam	Dādam	CXXVIII 18
58	26	i	pā	Pāvārikasa	CXXX 119
59	26	ii	pu	Putasa	CXXXI 190
60	26	iii	pu	Vipulāya	CXXIX 74
61	26	iv	pe	Opedadatasa	CXXIX 61
62	26	v	po	Poṭhadevāya	CXXVIII 24
63	27	i	phi	Saphineyakānā	CXXIX 80
64	27	ii	phu	Phujakapadiyasa	CXXX 117
65	28	i	ba	Tubayanā	CXXVIII, 3a
66	28	ii	bu	Budharakhitasa	CXXVIII 19
67	28	iii	bu	Budhapalita	CXXXI 186
68	28	iv	be	Abeyakasa	CXXXI 201
69	28	v	bo	Bodhagothiya	CXXIX 84
70	28	vi	bo	Bodhiyā	CXXXIV Pavement 16
71	29	i	bha	Bhadatasa	CXXXI 195
72	29	ii	bhā	Bhātu	CXXVIII 2
73	29	iii	bhi	Bhichhuno	CXXVIII 8
74	29	iv	bhū	Bhūtikāya	CXXXX q
75	29	v	bho	Bhogavadhana	CXXX 145
76	30	i	ma	Sāmanerasa	CXXXI 201
77	30	ii	ma	Vāghūmato	CXXX 126
78	30	iii	ma	Dhamarakhitasa	CXXXI 176
79	30	iii	mā	Mātu	CXVVIII 18
80	30	iv	mu	Mulagirino	CXXIX 34
81	30	vi	mū	Bumūsa	CXXIX 40
82	31	i	ya	Patiṭhiyasa	CXXVIII, 2
83	31	ii	ya	Jāyaya	CXXVIII 2
84	31	iii	ya	Patiṭhiyasa	CXXVIII 4
85	31	iv	yu	Vāyudhataya	CXXIX 61
86	32	i	ra	Rakhita	CXXVIII 1
87	32	ii	ri	Pavārikasa	CXXX 119
88	32	iii	ru	Varunasa	CXXXIV pavements 8
89	32	iv	ro	Virohasa	CXXVIII 23
90	32	v	ro	Rohapiya	CXXIX 53
91	33	i	la	Vasulāya	CXXX 122
92	33	ii	la	Sila	CXXXIV loose 2
93	33	iii	li	Bulikasa	CXXXIII 324
94	33	iv	le	Lekhakasa	CXXIX 34
95	34	i	li	Vālivahanā	CXXXI 187
96	35	i	va	Tubavana	CXXVIII 2
97	35	ii	vā	Sonadevāya	CXXXI 181
98	35	iii	vu	Nadāvuno	CVXXIII 23
99	35	iv	ve	Vedisa	CXXVIII, 1
100	38	i	sa	Vedisa	CXXVIII 1
101	38	ii	sa	Chasa	CXXXI 190
102	38	iii	sa	Dhamayasāsa	CXXXX m
103	38	iv	so	Sonasa	CXXIX, 57
104	38	v	so	Sonadevāya	CXXXI 181
105	39	i	ha	Arahata	CXXVIII 1

106	29	[illegible]	bi	Hemadatiya	CXXIX, 66
107	29	[illegible]	bu	Hu[illegible]	CXXIX, 62
108	30	i	dra	Aridrara	CXXXI, 30
109	30	ii	nbra	Jenbalara	CXXXIVI, 296
110	30	iii	nbu	Nbu[illegible]	CXXXIII, 3a
111	30	iv	ghu	Vrahumatra	CXXXIV, loose, 15
112	30	v	[illegible]	Avadeviye	CXXIX, 97

Explanation of Table X Plate III.

Sāñchi Series II

Part Monuments of Sanchi Vol. III. by J. Marshall

1	1	i	a	Avara	Stupa II. CXXXVI, 2
2	1	ii	ā	Ājaniva	CXXXVI, 31
3	2	i	i	Ilara	CXXXVI, 16
4	3	i	u	Udubara	CXXXVI, 22
5	7	i	ku	Pidukulikāya	CXXXVI, 5
6	7	ii	ku	Kodiya	CXXXVI, 24
7	7	iii	ku	Kotarayara	CXXXVI, 34
8	8	i	khi	Dhamarakhitasa	CXXXVI, 3
9	8	ii	khi	Bhikhumaya	CXXXVI, 11
10	8	iii	khu	Bhikhuna	CXXXVI, 24
11	8	iv	khu	Vikhusa	CXXXVI, 30
12	9	i	gi	Bhoyavadhanikaya	CXXXVI, 6
13	9	ii	gi	Mottagirno	CXXXVI, 12
14	9	iii	gu	Pharguiya	CXXXVI, 40
15	9	iv	go	Gotiputara	CXXXVI, [illegible]
16	10	i	gha	Saghamitasa	CXXXVI, 17
17	10	ii	gha	Saghamitasa	CXXXVII, 53
18	11	i	chu	Chuda	CXXXVI, 12
19	12	i	chha	Achh[ā]ya	CXXXVI, 32
20	12	ii	chhu	Vichhu	CXXXVI, 5
21	13	i	ja	Ajanāsā	CXXXVI, 31
22	14	i	jha	Sejhasa	CXXXVI, 3
23	16	i	ti	Katyasa	CXXXVI, 13
24	17	i	thi	Sethisa	CXXXVI, 32
25	18	i	dā	Gadāya	CXXXVI, 40
26	18	ii	du	Pidukulikāya	CXXXVI, 5
27	19	i	dha	Bhoyavadhanakasa	CXXXVI, 6
28	20	i	na	Kinara	CXXXVI, 18
29	20	ii	ni	[Roj]hanikasa	CXXXVI, 22
30	21	i	ta	Saghamitasa	CXXXVI, 53
31	21	ii	ti	Gotiputra	CXXXVI, 1
32	22	i	tha	Thabho	CXXXVI, 42
33	22	ii	thū	Pāthūpaka[ra]	CXXXVII, Slab 2
34	23	i	dā	Dāna	CXXXVII, 43
35	23	ii	dā	Dānah	CXXXVI, 44
36	24	i	dhi	Budhilara	CXXXVI, 6
37	25	i	nā	Nāgapalasya	CXXXVI, 37
38	25	ii	no	Sethino	CXXXVI, 19
39	26	i	pi	Pidukulikāya	CXXXVI, 5
40	26	ii	pi	Nāgapasya	CXXXVI, 35
41	26	iii	pu	Purakhitasa	CXXXVI, 1

42	26	iv	pu	Gotiputasa	CXXXXVI C
43	26	v	po	Pokhareyakasa	CXXXXVII 25
44	27	i	phi	Saphineyikaya	CXXXVII Steps 1
45	28	i	bu	Budhapalitasa	CXXXVI 19
46	28	ii	bu	Budhilasa	CXXXVI 6
47	29	i	bhi	Bhikhuno	CXXXVI 27
48	29	ii	bho	Bhogavadhana	CXXXVI 6
49	30	i	ma	Sumanasa	CXXXVI 8
50	30	ii	ma	M[o]gali	CXXXX b
51	30	iii	mi	Saghamitasa	CXXXVII 53
52	31	i	ya	Koraiya	CXXXVI 34
53	31	ii	ya	Ayasa	CXXXVII 64
54	31	iii	ye	Niye	CXXXVI 35
55	32	i	ri	Girino	CXXXVI 12
56	32	ii	ro	Rohani	CXXXVII Berm 14
57	33	i	la	Budhilasa	CXXXVI 6
58	33	iii	li	Padakulikāya	CXXXVI 5
59	35	i	vā	Vachhi	CXXXX g
60	35	ii	vi	Suvijaya	CXXXX g
61	38	i	sa	Budhilasa	CXXX
62	38	ii	vi	Suvijaye	CXXXX g
63	39	i	ha	Sihaya	CXXXVI 38
64	39	ii	hi	Hikatiyasa	CXXXVI 13
65	40	i	nhu	Sunhusaya	CXXXVII 56

Explanation of Table XI Plate III

Bharhut Series I

Ref *C=Cunningham Stupa of Bharhut, Plates LIII LVI*
ZDMG=Vol XL Plates I and II

1	1	i	a	Ayanagadevasa	C LIII Copingo I
2	1	ii	a	Ayananthakasa	ibid LIII Pillars 5
3	2	i	i	Isimigo	ibid LIII Coping 9
4	2	ii	i	Isāya	ZDMG pl II 112
5	3	i	u	Udajataka	C LIII Coping 14
6	4	i	ū	Ūkranti	ibid LI 89
7	5	i	e	Erapato	ibid LIV 43
8	7	i	ka	Jataka	ibid LIII Coping 2
9	7	ii	ki	Punakiya	ibid LIV 75
10	7	iii	ku	Chikulaniyasa	ibid LIV 77
11	7	iv	ko	Vadukokatha	ibid LIII Coping 18
12	8	i	khi	Bhutarakhitasa	ibid LIII Coping 2
13	8	ii	khi	Mahamukhisa	ibid LIII Pillars
14	8	iii	khu	Khujati	ibid LIII , 2
15	8	iv	kho	Yakho	ibid LIII 15
16	8	v	kho	Yako	ibid LV 83
17	9	i	gā	Nagadevasa	ibid LIII Copings I
18	9	ii	gi	Dusitogiri	ibid LIII 22
19	9	iii	go	Isimigo	ibid LIII 9
20	10	i	gha	Magha	ibid LIII 2
21	10	ii	ghā	Ghātila	ibid. LVI 45

22	19	iii	chi	Sechiaya	ibid. LVI. 24
23	19	iv	cho	Ghoshye	ibid. LVI. 57
24	11	i	cha	Chatoya	ibid. LIII. Copings. 4
25	11	ii	chā	Chipudavāya	ibid. LIII. Pillars. 1
26	11	iii	chi	Chupidā	ibid. LIII. Copings 21
27	11	iv	chu	Chulakoka	ibid. LIII. Pillars. 6
28	11	v	chū	Chudā	ibid. LIV. 64
29	11	vi	che	Dodapudechena	ibid. LIV. 70
30	12	i	chha	Sechha	ibid. LIII. Coping. 15
31	12	ii	chhi	Kuchhimha	ibid. LVI. 66
32	12	iii	chhu	Bhichhuniya	ibid. LIII. Pillars. 7
33	13	i	ja	Jataka	ibid. LIII. Copings. 2
34	13	ii	jā	Sujato	ibid. LIII. Coping. 5
35	13	iii	ji	Jitaka	ibid. LIII. Copings 12
36	13	iv	jī	Jitaka	ibid. LIV. 58
37	13	v	je	Pacenau	ibid. LIV. 40
[illegible]	13	vi	jo	Jethbharaya	ibid. LVI. 40
39	13	i	jha	Majhakāya	ibid. LIV. 58
40	13	ii	jhā	Yajhakiya	ibid. LV. 8
41	13	i	ña	Sati	ibid. LIII. Copings. 8
42	13	ii	ñā	Rāño	ibid. LVI. 67
43	16	i	ta	Kuluta	ibid. LIII. Copings 6
44	16	ii	tā	Jatala	ibid. LIII. Copings 13
45	16	iii	ti	Satapadinasa	ibid. LV. 50
46	17	i	tha	Pathinas	ibid. LIII. Pillars. 1
47	17	ii	thi	Purathima	ibid. LIV. 29
48	1	i	da	Vasudata	ibid. LVI. 55
49	18	ii	dā	Budāta	ibid. LIII. Copings. 6
50	18	iii	di	Anādhapaliko	ibid. LIII. Pillars. 20
51	18	iv	du	Vadukokutha	ibid. LIII. Copings. 18
52	18	v	de	Padalakasa	ibid. LVI. 61
53	18	vi	do	Nadede	ibid. LIII. Copings. 10
54	19	i	dha	Vadhanivasa	ibid. LV. 85
55	20	i	nā	Bhuna	ibid. LIII. Pillars. 3
56	21	i	ta	Bhadata	ibid. LIV. 77
57	21	ii	ta	Tipasa	ibid. LIII. Copings 3
58	21	iii	ti	Revatimita	ibid. LIII. Pillars. 1
59	21	iv	tu	Dhitu	ibid. LIII. Pillars. 7
60	21	v	to	Gabuto	ibid. LIII. Copings. 5
61	22	i	tha	Thabho	ibid. LIII. Pillars. 1
62	22	ii	thi	Purathima	ibid. LIV. 29
63	22	iii	thi	Chudathilikiya	ibid. LV. 5
64	22	iv	thu	Thupudāta	ibid. LV. 46
65	23	i	da	Vedisa	ibid. LIII. Pillars. 1
66	23	ii	du	Nadutaraya	ibid. LV. 12
67	23	iii	de	Desiyā	ibid. LIII. Pillars. 1
68	23	iv	de	Dedapālā	ibid. LIV. 70
69	24	i	dha	Nagedha	ibid. LIV. 44
70	24	ii	dhā	Anurādhāya	ibid. LIV. 23
71	24	iii	dhi	Bodhi	ibid. LIII. 3
72	24	iv	dhu	Avadhadhu	ibid. LIII. Copings. 8
73	24	v	dhu	Dhutava	ibid. LVI. 59
74	25	i	na	Nivadasas	ibid. LIII. Copings. 1
75	25	ii	nu	Anurādhāya	ibid. LIV. 73

76	25	iii	no	Gahapatino	ibid LIII Pillar 14
77	25	iv	nam	Dānam	ibid LIII Pillar 1
78	26	i	pa	Tapasi	ibid LIII Copings 3
79	26	ii	pi	Kupiro	ibid LV 83
80	26	iii	pu	Pāṭaliputako	ibid LV 2
81	26	iv	pam	Pamthakasa	ibid. LIII Pillars 5
82	27	i	pha	Phagudevasa	ibid LIV 69
83	28	i	bi	Bidāla	ibid LIII Copings 6
84	28	ii	bī	Chūdabukāya*	ibid LIII Pillars 9
85	28	iii	bu	Budhino	ibid. LIII Pillars 14
86	28	iv	bu	Yambumano	ibid LV 97
87	28	v	bū	Jabū	ibid LIII Copings 19
88	28	vi	bo	Abode	ibid. LIII Copings 4
89	29	i	bhā	Sabhā	ibid LIII Copings 13
90	29	ii	bhi	Bhisaharaniya	ibid LIII Copings. 17
91	29	iii	bhu	Bhutakasa	ibid LIV 52
92	29	iv	bhu	Bhutarakhitasa	ibid Pillars 2
93	29	v	bhū	Dhanabhūtisa	ibid LVI 54
94	29	vi	bho	Thabho	ibid LIII Pillars 1
95	30	i	ma	Paṭhama	ibid. LIII. Pillars 1
96	30	ii	mā	Mānayako	ibid LIV 76
97	30	iii	mi	Revatimita	ibid LIII Pillars 1
98	30	iv	mu	Mahamukhisa	ibid LIII Pillars 7
99	30	v	mo	Moragirimha	ibid LIV 67
100	31	i	ya	Aya	ibid LIII Copings 1
101	31	ii	yā	Bhāriyāya	ibid LIII Pillars. 1
102	32	i	ra	Gorakhitasa	ibid LIII Pillars 4
103	32	ii	rā	Rāja	ibid LIII Copings 20
104	32	iii	ri	Giri	ibid LIII Copings 22
105	32	iv	ro	Chharo	ibid LIV 70
106	32	v	ro	Kupiro	ibid LV 82
107	33	i	la	Bidāla	ibid LIII. Copings. 6
108	33	ii	lo	Bodhisālo	ibid LIII Pillars. 3
109	35	i	va	Nāgadevasa	ibid LIII Copings 1
110	35	ii	vi	Deviya	ibid LIII Copings 2
111	35	iii	vi	Devi	ibid LIII Copings. 20
112	35	iv	ve	Vedisā	ibid LIII Pillars 1
113	38	i	sā	Vedisā	ibid LIII Pillars 1
114	38	ii	si	Silā	ibid. LIII Copings 21
115	38	iii	si	Dusito	ibid LIII Copings 22
116	38	iv	su	Sujāto	ibid LIII Copings 5
117	38	v	su	Vasukasa	ibid. LV 87
118	38	vi	se	Sechha	ibid LIII Copings 15
119	38	vii	so	Somāya	ibid LV 3
120	39	i	hi	Mahila	ZDMG, Pl I. 89
121	39	ii	hī	Mahīdasana	ibid pl II 112
122	39	iii	hu	Gahuto	C LIII Copings 5
123	39	iv	ham	Hamsa	ibid LIII Copings 11
124	40	i	kram	Ūkrānti	ibid LV. 89
125	40	ii	nkha	Atankhatasa	ibid LVI. 46
126	40	iii	nhi	Kanhilasa	ibid LV 18

* CHUDATHILIKĀYA Cunningham's reading

11	30	i	ma	Gotama	1 1
12	35	i	va	Bhāgavatena	1 7
13	38	i	sa	Dasa	1 6
14	40	i	tre,	Putrena	1 1
15	40	i	prā.	Prāsā[do]	1 4

Explanation of Table XIV. Plate III

Barlī Fragmentary Inscription

Ref *IA*, 1929, *Pl facing p 229*

1	7	i	ke	Majhimike	1 4
2	9	i	ga	Bhagavata	1 1
3	11	i	cha	Chaturasata	1 2
4	13	i	jhi	Majhimike	1 4
5	17	i	ṭha	Ni [vi] ṭha	1 4
6	21	i	ta	Chatursata	1 2
7	21	ii	tu	Chaturasata	1 2
8	25	i	ni	Ni [vi] ṭha	1 4
9	29	i	bha	Bhagavate [e]	1 1
10	30	i	mā	Malini	1 3
11	30	ii	mi	Majhimike	1 4
12	31	i	ya	Vir [ā] ya	1 1
13	31	ii	ye	[Kā] ye	1 3
14	32	i	rā	Vir [ā] ya	1 1
15	32	ii	ra	Caturasata	1 2
16	32	iii	ram	Ram	1 4
17	33	i	li	Mālini	1 3
18	35	i	va	Va	1 2
19	35	ii	vi	Vir [i] ya	1 1
20	14	i	sa	Chaturasata	1 2

Explanation of Table XV Plate IV

Coins and Seals Series III

Ref *A=Allan, Catalogue of the Coins of Ancient India.*
J=Journal of the Numismatic Society of India
R=Puri, K N, Excavations at Rairh

1	1	i	a	Amoghabhutisa	A XXII 1
2	2	i	i	Idramitasa	A XXIX 1
3	5	i	o	Odabarisa	A. XIV. 14
4	6	i	ku	Kunidasa	A XXII 1
5	7	i	kha	Khatapana	A XXVI 6
6	8	i	gā	Hagāmashasa	A XXVI 6
7	8	ii	gi	Agimitasa	A XXVIII 8
8	8	iii	gu	Phagunimitrasa	A XXVII 11
9	9	i	gha	Amoghabhutisa	A XXII 3
10	9	ii	gho	[A]svaghosha	A XX 6
11	9	iii	gho	Dharaghoshasa	A XIV 14
12	12	i	ja	Maharajasa	A XXIII 1
13	12	ii	ju	Rajuvulasa	A XXVI 12
14	14	i	ño	Rano	A. XIV. 14
15	17	i	dā	Sadāsasa	A. XXVI. 16
16	20	i	ṭa	Khatapasa	A XXVI 2

3	2	i	i	ito	Pl CXXXIV EG 2 line 1
4	3	i	u	Upāḍā	Pl CXXXIV EG 2, 1 2
5	6	i	ka	Sātakanisa	Pl CXXXIV SG 2, 1 1
6	7	i	khu	Bhikhuno	Pl CXXXVII Stupa III 14
7	8	i	ga	Nāgap[i]yasa	Pl. CXXXIV WG 2
8	8	ii	gi	Dhamagirisa	Pl CXXXVII Stūpa III 16
9	9	i	gha	Ghatina	Pl CXXXIV EG 2 1 4a
10	9	ii	ghā	Ghātina	Pl CXXXIV EG 2. 1 3b
11	10	i	cha	Ācharīya	Pl. CXXXIV EG 2 1 2
12	10	ii	chu	Ayachudasa	Pl CXXXIV WG. 1
13	11	i	chhā	Achhāvada	Pl CXXXIV EG 3
14	11	ii	chhe	Gachheya	Pl CXXXIV WG 3a
15	14	i	ño	Rāño	Pl. CXXXIV SG 1 1 1
16	16	i	ṭhi	Saṭhisa	Pl. CXXXIV EG 3
17	17	i	da	Ayachuḍasa	Pl CXXXIV. WG 1
18	19	i	na	Kākānāva	Pl. CXXXIV. WG 3a
19	19	ii	ni	Sātakanisa	Pl CXXXIV SG 1 1 1
20	20	i	ta	Arhamita	Pl. CXXXIV. EG 2 1 4a
21	20	ii	ta	Sātakanisa	Pl CXXXIV SG 1 1 1
22	21	i	tha	Thabho	Pl CXXXIV EG 3
23	22	i	da	Apamdasa	Pl CXXXIV SG 1 1 3
24	22	ii	dā	Dāna	Pl CXXXIV EG 3
25	22	iii	di	Dinasa	Pl CXXIX 90
26	23	i	dha	Dhamaka	Pl CXXXIV SG 2 1 1
27	24	i	na	Dāna	Pl CXXXIV EG 3
28	24	ii	no	Vāsino	Pl CXXXIV WG 1
29	24	iii	nam	Ānamdasa	Pl CXXXIV SE 1,1 3
30	25	i	pa	Rohamyapadiya	Pl CXXXIII 322
31	25	ii	pu	Putrasa	Pl CXXXIV SG 1, 1 2
32	25	iii	po	Pokhaseyakasa	Pl CXXIV 90
33	27	i	ba	Balamitrasa	Pl CXXXIV SG 2,1.1
34	27	ii	bu	Bulikasa	Pl CXXXIII 324
35	27	iii	bu	Budhapālinasa	Pl CXXXIII 356
36	28	i	bhi	Bhikhuno	Pl CXXXVII. 10
37	28	ii	bho	Thabho	Pl CXXXIV EG 3
38	29	i	mi	Isimitrasa	Pl CXXXVII 14
39	29	ii	mū	Mūlasa	Pl CXXXVII 10
40	29	iii	me	Sanikāmeya	pl CXXXIV WG 3b
41	30	i	ya	Nāgapiyasa	Pl CXXXIV. WG 2
42	30	ii	ya	Gachheya	Pl CXXXIV WG 3b
43	31	i	ra	Arahadinasa	Pl CXXIX 90
44	31	ii	ri	Siri	Pl CXXXIV SG 1, 1.1
45	31	iii	ro	Rohamiyapadiya	Pl CXXXIII 322
46	32	i	la	Balamitasa	Pl CXXXIV WG 1
47	32	ii	li	Budhapālinasa	Pl CXXXIII 356
48	34	i	va	Achhāvana	Pl CXXXIV EG 3
49	34	ii	vā	Vāsithi	Pl CXXXIV SG 1, 1 2
50	37	i	sa	Dinasa	Pl CXXIX 90

38	25	i	pa	Pachajvala	C 1 4
39	25	ii	pā	Imdrapā	A 9, 1 2
40	25	iii	pi	Shthāpito	D 1 9
41	25	iv	pu	Pujāye	A 2, 1 4
42	25	v	po	Poṭhaghoshena	A 2, 1 3
43	26	i	pha	Phaguyaśāsa	A 4, 1 1a
44	28	i	bha	Bhayāye	A 5, 1 1b
45	28	ii	bha	Bhagavatā	C 1 2
46	28	iii	bha	Bhayāye	A 2, 1 2
47	29	i	ma	Mahakshatrapasa	A 2, 1 2
48	29	ii	mā	Vardhamānasa	A 2, 1 1
49	29	iii	mi	Svamisya	E 1 1
50	29	iv	mo	Namo	A 5, 1 1a
51	29	v	mo	Amohiniye	A 2, 1 3
52	30	i	ya	Kshaya	A 7, 1 4
53	30	ii	ya	Bhayaye	A 2, 1 2
54	30	iii	ye	Pujaye	A 2, 1 4
55	31	i	ra	Arahata	A 5, 1 2b
56	31	ii	ri	Haritiputrasa	A 2, 1 3
57	31	iii	re	Savatsare	A 2, 1 2
58	31	iv	ra	Toranam	D 1 4
59	32	i	la	Śaila	C 1 4
60	32	ii	lam	Lam	D 1 8
61	33	i	la		
62	34	i	va	Vachhiputrasa	
63	34	ii	va	Āyavati	A 2, 1 4
64	34	iii	va	Vasuna	D 1.6
65	34	iv	va	Vasya	D 1 7
66	34	v	vāh	Devāh	D 1 10
67	34	vi	va	Śivayaśa	A 5, 1 2
68	34	vii	vi	Sāvikāye	A 2, 1 2
69	35	i	śi	Śivayaśa	A 5, 1 2a
70	35	ii	śo	Śodāsasa	A 2 1 2
71	35	iii	sai	Śaila	C 1 4
72	36	i	she	Poṭhaghoshena	A 2, 1 3
73	36	ii	shā	Imashā	E 1 2
74	37	i	sa	Putrasa	A 9, 1 2
75	37	ii	sa	Natakasa	A 5, 1 2 a
76	37	iii	su	Vasunā	D 1,6
77	37	iv	si	Vasiniye	A 4, 1 1
78	37	v	se	Senasya	A 4, 1 1
79	38	i	ha	Maha	C 1 1
80	38	ii	hi	Amohiniye	A 2, 1 3
81	38	iii	he	Hemata	A 2, 1 2
82	39	i	ksha	Kshatrapasa	A 2, 1 2
83	39	ii	gra	Śegrava	E 1 1
84	39	iii	jva	Pachajvala	C 1 4
85	39	iv	tra	Putrasa	A 2, 1 2
86	39	v	ṭṭo	Paṭṭo	E 1 3
87	39	vi	tsa	Savatsare	A 2, 1 2
88	39	vii	dra	Imdrapa	A 9, 1 2
89	40	i	pra	Praya	A 2, 1 3
90	40	ii	pri	Prito	D 1 9
91	40	iii	brā	Brahmanena	E 1 1
92	40	iv	rchha	Archha	C 1 4
93	40	v	rta	Samvarta	D 1 12

D = Mathurā Jain Inscriptions (New Series) nos. 10-12, *EI*, Vol. II.

E = Stone Bowl Inscription from Mathurā, *EI* Vol. XIX, plate facing p. 267, no. VI.

1	1	i	a	[illegible]	D. 20, line 1
2	1	ii	a	[illegible]	E. 1, [illegible]
3	1	iii	a	[illegible]	D. 20, 1 2
4	1	iv	a	[illegible]	A. 1.1
5	2	i	i	[illegible]	E. 1.1, [illegible]
6	3	i	u	[illegible]	A. 1.3
7	4	i	e	[illegible]	A. 1.4
8	5	i	o	[illegible]	A. 1.5
9	5	ii	o	[illegible]	A. 1.3
10	6	i	ka	[illegible]	D. 30, 1.1
11	6	ii	ka	[illegible]	C. 1.1
12	6	iv	ka	[illegible]	A. 1.5
13	7	i	kha	[illegible]	A. 1.3
14	7	ii	kha	[illegible]	A. 1.3
15	8	i	ga	[illegible]	A. 1.4
16	9	i	gha	[illegible]	C. 1.1
17	9	ii	gha	[illegible]	B. 1.2
18	10		cha	[illegible]	B. 1.1
19	10	i	cha	[illegible]	A. 1.4
20	12	i	ta	[illegible]	A. 1.3
21	12	ii	ta	[illegible]	D. 30, 1.2
22	13	i	tha	[illegible]	A. 1.3
23	13		da	[illegible]	C. 1.1

24	15	ii	ṭo	Āyagapaṭo	D 30, 1 2
25	19	i	na	Pautrena	B 1 6
26	20	i	ta	Kshaharatasa	C 1 1
27	20	ii	ti	Hati	C 1 9
28	20	iii	ti	Patitah	C 1 10
29	20	iv	ti	Pati	C 1 2
30	20	v	to	Pratithapito	D 32 1 2
31	20	vi	tah	Patitah	C 1 10
32	21	i	tha	Pratha[me]	B 1 3
33	21	ii	thu	Thupa	C 1 2
34	22	i	di	Divase	A 1 2
35	22	ii	di	Sihanadikena	D 30, 1 2
36	22	iii	di	Śivadinesya	A 1 4
37	23	i	dha	Śidhana	A 1 1
38	23	ii	dhu	Vadhuye	D 32, 1 1
39	24	i	na	Namo	D 30, 1 1
40	24	ii	na	Nama	A 1 1
41	24	iii	na	Sihanadikena	D 30, 1 2
42	24	iv	ni	Vanikasa	D 30, 1 1
43	25	i	pa	Pati	C 1 2
44	25	ii	pam	Pamchaliye	B 1 3
45	25	iii	pi	Sthapito	A 1 4
46	25	iv	pu	Putasa	E 1 1, fist half
47	25	v	pau	Pautrena	B 1 6
48	27	i	bu	bughara	B 1 2
49	27	ii	bu	Budhasa	E 1 1, first half
50	28	i	bha	Bharayaśasa	D 32 1 1
51	28	ii	bha	Bhadranadisa	D 32 1 1
52	28	iii	bha	Bhaginiy[e]	A 1 3
53	29	i	mi	Mitrasya	B 1 5
54	29	ii	mo	Namo	D 30, 1 1
55	30	i	ye	Ayalasa	E 1 1, first half
56	30	ii	ye	Pujaye	E 1 1
57	30	iii	ye	Pamchaliye	B 1 8
58	30	iv	ye	Okharikaye	A 1 3
59	31	i	ra	Arahamtanam	D 30 1 1
60	31	ii	ra	Kshaharatasa	C 1 1
61	31	iii	ri	Rajatirajasya	A 1 1, first ra
62	32	i	la	Ayalasa	E 1 1, first half
63	32	ii	li	Pamchaliye	B 1 8
64	34	i	ya	Śivagho	D 31
65	34	ii	va	Vadhuye	D 32 1 1
66	34	iii	va	Divase	A 1 2
67	34	iv	vi	Vanikasa	D 30, 1 1
68	34	v	vi	Mahavirasya	A 1 2
69	34	vi	vi	Bhargavi	B 1 6
70	35	i	si	Kośiki	D 30 1 1
71	35	ii	śi	Śidha	A 1 1
72	35	iii	si	Śirikasya	A 1 4
73	35	iv	śau	Śau	B 1 6
74	37	i	sa	Kshaharatasa	C 1 1
75	37	ii	se	Vase	B 1 4
76	37	iii	si	Sihakasa	D 30 1 1
77	38	i	ha	Kshaharitasa	C 1 1
78	38	ii	hi	Hati	B 1 9
79	38	iii	ha	Maharajasya	A 1 1

Explanation of Table XIX. Plate IV.

Pabhosā Cave Inscriptions.

Ref: *IA.* Vol. II. 1. Plate facing p. 242
2. Plate facing p. 243

1	1	a	a	Adhichhatrika	2. Line 1
2	2	a	ā	Ārāhanenam	1. 1 8
3	3	a	ā	Udakasya	1. 1 6
4	6	a	ka	Kasyapa	2. 1 3
5	6	a	kā	Sangharakshita	2. 1 1
6	8	a	ta	Vasishthiputra	2. 1 1
7	8	a	ga	Gopāli	1. 1 3
8	10	a	chha	Sarachhare	1. 1 7
9	14	a	ña	Rāja	2. 1 1
10	15	a	dha	Adhikarasya	1. 1 5
11	19	a	ra	Pitarya	2. 1 1
12	19	a	ni	Tevani	2. 1 2
13	20	a	ti	Bahasati	1. 1 2
14	20	a	ta	Mitrasya	1. 1 1
15	20	a	ra	Tevari	2. 1 2
16	22	a	da	Dasa	1. 1 5
17	22	a	da	Vadhaka	2. 1 2
18	23	a	dha	Adhichhatrika	2. 1 1
19	24	a	na	Sanaka	1. 1 5
20	24	a	na	Sunakasya	2. 1 1
21	24	a	ka	Gopaka	1. 1 5
22	25	a	ya	Dhamaya	2. 1 2

23	25	iii	pu	Putrena	2 1 2
24	25	iv	pu	Putrasya	2 1 1
25	27	i	ba	Bahasati	1 line 2
26	28	i	bhā	Bhāgavatasya	2 1 2
27	29	i	mā	Mātulena	1 1 3
28	29	ii	mi	Mitrasa	1. 1 2
29	30	i	yā	Kaśśapiyāna (?)	1 1 7
30	30	ii	yā	Adhidhhatrāyā	2 1 1
31	30	iii	yā	Gopāliyā	1 1 3
32	31	i	rā	Rājña	1 1.1
33	31	ii	rā	Rāño	2 1 1
34	31	iii	ri	Kāritam	2 1 3
35	31	iv	ri	Vaihidarī	1 1 4
36	32	i	la	Vamgapālasya	2 1 1
37	32	ii	li	Gopāliyā	1 1 3
38	32	iii	le	Lenam	1 1 5
39	34	i	vai	Vaihidarī	1 1 4
40	34	ii	vam	Vamgapāla	2 1 1
41	35	i	śo	Śonakāyā	2 1 1
42	36	i	shā	Āshāḍha	2 1 3
43	37	i	sa	Bahasati	1 1 2
44	37	ii	sā	Āsāḍha	1 1 5
45	38	i	ha	Bahasati	1 1 2
46	38	ii	hi	Vaihidarī	1 1 4
47	39	i	iña	Rājña	1. 1 1
48	39	ii	ttra	Puttrasa	1 1 2
49	39	iii	ttra	Puttrasya	2 1 2
50	39	iv	tra	Putrena	2 1 2
51	40	i	sya	Putrasya	2 1 2
52	40	ii	sya	Pālasya	2. 1 1

Explanation of Table XX Plate IV

Bhārhut Gateway Inscription

Ref *Mem ASI* No 1

1	1	i	ā	Āgarājusa	line 2
2	3	i	u	Upamna	1.4
3	6	i	kā	Kāritam	1 3
4	8	i	gi	Gāgiputasa	1 1
5	8	ii	go	Gotiputasa	1 2
6	10	i	cha	Cha	1 4
7	11	i	chhi	Vāchhi	1 3
8	12	i	ju	Rajusa	1 2
9	12	ii	je	Raje	1 1
10	14	i	ño	Rāño	1 1
11	19	i	ṇa	Upamna	1 4
12	20	i	te	Pautena	1 2
13	20	ii	to	Toranī	1 3
14	22	i	de	Devasa	1 1
15	23	i	dha	Dhanabhūtina	1 3
16	24	i	nam	Suganam	1.1
17	25	i	pu	Putena	1 3
18	25	ii	pau	Pautena	1 2
19	28	i	bhū	Dhanabhūtina	1 3

1.4	14	26	i	[illegible]	[illegible]	1.2
1.1	15	29	i	[illegible]	Medha	1.1
1.3	16	30	i	[illegible]	[illegible]	1.1
1.4	17	31	i	[illegible]	Dora	1.1
1.3	18	32	i	[illegible]	[illegible]	1.1
1.1	19	34	i	[illegible]	[illegible]	1.2
1.1	20	35	i	[illegible]	[illegible]	1.1
1.4	21	36	i	[illegible]	[illegible]	1.5
	22	37	i	[illegible]	[illegible]	1.1
	23	39	i	[illegible]	[illegible]	1.1
	24	39	ii	[illegible]	[illegible]	1.2
	25	39	iii	[illegible]	[illegible]	1.1
	26	40	i	[illegible]	[illegible]	1.2
	27	40	ii	[illegible]	[illegible]	1.2
1.1	28	40	iii	[illegible]	[illegible]	1.1
1.1	29	41	i	[illegible]	[illegible]	1.1
1.1	30	41	ii	[illegible]	[illegible]	1.1
1.1	31	41	iii	[illegible]	[illegible]	1.1
1.2						
1.1						
1.2						
1.1						
1.1						
1.1						
1.2	1	1	[illegible]	[illegible]	[illegible]	[illegible]
1.1	2	1	[illegible]	[illegible]	[illegible]	[illegible]
1.1	3	2	[illegible]	[illegible]	[illegible]	[illegible]

Explanation of Table XXII Plate IV

Bodh Gaya Railing Inscriptions

Reference Nos. [illegible] Plate [illegible]

4	2	ii	im	Imdrāgi	no 10
5	6	i	ku	Kuramgiye	no 7
6	7	i	khi	Rakhitasa	no 3
7	8	i	gi	Kuragiye	no 10
8	9	i	gha	Amoghāsā	no. 2
9	10	i	che	Chetikāsa	no 10
10	11	i	chha	Chha	no 1
11	12	i	ja	Pajavatiye	no. 10
12	12	ii	ji	Jivāputraye	no 9
13	15	i	ṭa	Ṭa	no 1
14	20	i	ti	Pājāvatiye	no 10
15	22	i	dā	Dānam	no 7
16	23	i	dhi	Bodhi	no. 3
17	24	i	nam	Dānam	no 7
18	25	i	pā	Pajāvatiye	no 10
19	25	ii	pu	Putrāye	no 10
20	27	i	bo	Bodhi	no 3
21	29	i	mi	Imdrāgimitrāsa	no 9
22	29	ii	mo	Amoghasā	no 2
23	30	i	yā	Ayāye	no 4
24	30	ii	ye	Kuragiye	no 4
25	31	i	ram	Kuramgiye	no 7
26	34	i	vā	Jivāputrāye	no 9
27	34	ii	vā	Pājavatiye	no 10
28	37	i	sa	Mitrasa	no 10
29	39	i	tra	Putrāye	no 10
30	39	ii	drā	Imdrāgimitrasa	no 9

Explanation of Plate IV A

Hāthigumphā Inscription of Khāravela

Ref Sircar, D C, *SI* Pls XXXVII (Left=L) & XXXVIII (Right=R)

1	1	i	a	Arahantāna	L 11
2	1	ii	a	Abhisita	L 13
3	2	i	u	Upitena	R 11
4	2	ii	u	Usava	L 15
5	3	i	e	Etina	L 18
6	4	i	ai	Airena	L 11
7	5	i	o	Oghāṭitam	L 16
8	6	i	ka	Kalinga	R 11
9	6	ii	ka	Kidikā	L 12
10	6	iii	ki	Kidika	L 12
11	7	i	kha	Lakhanena	R 11
12	7	ii	kha	Sankhāra	L. 13
13	7	iii	khi	Khibira	R 13
14	8	i	gā	Kalinga	R 11
15	8	ii	gi	Gita	L 15
16	8	iii	gu	Guna	R 11
17	8	iv	go	Gopura	L. 13
18	9	i	gha	Megha	L 11
19	10	i	cha	Pādiyocha	R 13
20	10	ii	che	Chetirāja	L 11
21	11	i	chhi	Pachhima	L 14
22	12	i	ja	Chetirāja	L 11

L.11	51	22	[illegible]	[illegible]	Gopala	L 13
L.16	52	22	[illegible]	[illegible]	Prabhara	L 12
L 13	53	23	[illegible]	[illegible]	[illegible]	R.13
L 16	54	23	[illegible]	[illegible]	[illegible]	L.13
R 11	55	23	[illegible]	[illegible]	Kanakbera	R 13
L.12	56	23	[illegible]	[illegible]	[illegible]	R 13
L 12	57	24	[illegible]	[illegible]	[illegible]	R 13
R.11	58	24	[illegible]	[illegible]	[illegible]	L.13
L.12	59	25	[illegible]	[illegible]	[illegible]	L 13
L 13	60	25	[illegible]	[illegible]	[illegible]	L 13
L 13	61	25	[illegible]	[illegible]	[illegible]	L 11
L.16	62	25	[illegible]	[illegible]	[illegible]	L 11
R.11	63	26	[illegible]	[illegible]	[illegible]	L 13
L 13	64	26		[illegible]	[illegible]	L 13
L 11	65	26	[illegible]	[illegible]	[illegible]	R 13
L 15	66	26	[illegible]	[illegible]	[illegible]	L 12
L 13	67	27	[illegible]	[illegible]	[illegible]	L 11
L.15	[illegible]	27	[illegible]	[illegible]	[illegible]	L 12
L.12	69	27		[illegible]	[illegible]	L 13
L 12	70	27	[illegible]	[illegible]	[illegible]	L 11
L 11	71	28	[illegible]	[illegible]	[illegible]	L 14
L 12	72	28		[illegible]	[illegible]	R 13
L 15	73	28	[illegible]	[illegible]	[illegible]	L 11
L.15	74	29	[illegible]	[illegible]	[illegible]	L 13
L 11	75	29		[illegible]	[illegible]	L 13
L 15	[illegible]	29	[illegible]	[illegible]	[illegible]	L 13
L 11	77	29	[illegible]	[illegible]	[illegible]	L 16
L.113	[illegible]	31	[illegible]	[illegible]	[illegible]	L 13

79	30	ii	si	Savasidhanam	L. 1 1
80	30	iii	si	Siri	L 1 2
81	30	iv	su	Subha	R 1 1
82	31	i	ha	Maha	L 1 1
83	31	ii	ham	Araham	L 1 1
84	32	i	nha	Kanha	R 1 4

Explanation of Table XIII. Plate V

Mathurā Inscriptions of Kanishka years 5 23

References

A Mat Statue Inscription of Kanishka *ASI(AR)* 1911-12, pl LIII

B Inscription of Kanishka year 5 *EI* I 381 no 1

C Inscription of Kanishka year 7 *EI* I 391. no 19

D Inscription of Kanishka year 8 *EI* XVII 10

E Inscription of Kanishka year 9 *IA* XXXIII 37, no 6 plate on *ASI(AR)* III p 31 no 4

F Dura Inscription of Kanishka year 16 *EI* XXXV pp 190 99 and Plate

G Curzon Museum Inscription of Kanishka year 23 *IT* XXVIII 44 & plate

1	1	i	a	Aryya	C line 1
2	1	ii	a	Asya	D line 2
3	4	i	e	Etasya	C line 1
4	4	ii	e	Etasya	G line 1
5	6	i	ki	Kiyato	C line 1
6	6	ii	ku	Kulato	C line 2
7	7	i	khu	Khudaye	B. Sec. A line 2
8	8	i	ga	Nagabhuti	C line 8
9	8	ii	go	Goshtha	C line 2
10	8	iii	gu	Gutasya	G line 1
11	8	iv	ga	Bhagavatah	D line 2
12	10	i	cha	Saḍhachari	B Sec A line 2
13	10	ii	che	*chenagarito*	B Sec A line 2
14	10	iii	cha	Cha	D line 2
15	11	i	chha	Chhare	F line 2
16	12	i	ja	Maharaja	C line 1
17	12	ii	ja	Rajatiraja	C. line 1
18	17	i	ḍa	Khuḍ[a]ye	B Sec A line 2
19	18	i	ḍha	Saḍhachari	B Sec A. line 2
20	19	i	ṇa	Ganato	B Sec A line 1
21	19	ii	ni	Kanishkasya	C line 1
22	20	i	to	Koliyato	B Sec A line 1
23	20	ii	to	Ganato	C line 2
24	20	iii	ti	Nagabhuti	C line 2
25	21	i	ṭhi	Sethi	B Sec A line 2
26	22	i	di	Di	B Sec A line 1
27	22	ii	de	Devaputrasya	B Sec A line 1
28	22	iii	di	Di	D line 1
29	23	i	dhi	Dhiri	B Sec B line 1

B. Sec. A. line 2	57	39	v	ryya	Pūrvya	B. Sec. I. line 1
B. Sec. A. line 1	58	40	i	shya	Śalya	C. line 2
B. Sec. A. line 1	59	40	ii	shtha	Goshtha	C. line 2
B. Sec. A. line 1	60	40	iii	shka	Kanishka	A.
D. line 2	61	40	iv	[illegible]	Mahārājasya	D. line 2
C. line	62	40	v	sya	Ptaiya	B. Sec. A. line 1
A.	63	41	i	sya	Mahatasya	G. line 1
C. line 1	64	41	ii	hra	Bahra	B. Sec. A. line 1
G. line 2	65	41	iii	Ukha	Kapakkha	D. line 1
B. Sec. A. line 1	66	41	iv	kchi	Pukchuni	D. line 2
C. line 1	67	41	v	sti	Gri	D. line 1
B. Sec. A. line 2	68	42	i	[illegible]	Devaputrasya	A. line 1
C. line 2	69	43	i	3	[illegible]	D. line 1
B. Sec. A. line 2	70	43	ii	5	[illegible]	B. Sec. A. line 1
A.	71	43	iii	5	[illegible]	C. line 1
B. Sec. A. line 2	72	43	iv	6		E. line 2
C. line 2	73	43	v	7		C. line 1
C. line 1	74	43	i	10	[illegible]	C. line 1
B. Sec. A. line 1	75	43	ii	10	[illegible]	E. line 2
C. line 1	76	43	iii	20	[illegible]	G. line 1
B. Sec. A. line 1	77	43	iv	4	[illegible]	D. line 1
A.	78	43	v	3	[illegible]	D. line 1
C. line 1						
G. line 1						
A.						
B. Sec. A. line 1						
[illegible]						

Explanation of Table XXIV Plate V

Inscriptions of Vasishka and Huvishka years 24–60

References

A Mathura Inscription of Vasishka year 24
Luder *MI* no 94 pp 125-26 pl on p 295

B Sañchi Inscription of Vasushka year 28
EI II 369 plate facing p 318

C Mathura Inscription of Huvishka year 28 *SI* pp 151 52 pl XXVIII

D " " " year 29 *EI* I 385 no 6

E " " " year 39 *EI* XIX 66 no 2

F " " " year 44 *EI* I 387 no 9

G. Lucknow Museum Inscription of Huvishka year 48 *EI* X 112 no 5

H Mathurā Inscription of Huvishka year 50 *IA* 219 no 11

I " " " year 51 *EI* X 113 no 6

J Mathura Inscription of Huvishka year 58 *EI* X. 114 no 7

K " " " year 60 *EI* I 386 no 8

L " " " *EI* II 206 no 25

M " " " *EI* II 206 n, 26

1	1	i	a	Asya	D Sec A
2	1	ii	a	Ashtapana	J line 1
3	3	i	u	Upadhyayasya	I line 2
4	4	i	e	Etasya	E line 1
5	4	ii	e	Ekunato	M Sec A line 1
6	6	i	ki	Sthanikiye	K Sec A
7	6	ii	ku	Kuṭubiniye	D Sec B
8	6	iii	ke	Mādhurike	B line 2
9	7	i	kha	Kharasya	B line 2
10	7	ii	kha	Śakhāya	K Sec A
11	7	iii	khi	Sukhitaye	D Sec A
12	7	iv	kho	Dukho	I line 3
13	8	i	ga	Hagana	J line 2
14	8	ii	ga	Bhagava	B line 1
15	9	i	gha	Saghadāsasya	I line 2
16	10	i	cha	Vāchakasya	K Sec A
17	11	i	chha	Chhayā	B line 2
18	12	i	ja	Rājasya	G, line 1
19	15	i	ṭi	Proṭima	G line 2
20	15	ii	ṭu	Kuṭubiniye	D Sec B
21	18	i	ḍhi	Dhiye	F Sec. B
22	18	ii	ḍhi	Kaḍhi	J line 2

51	34	ii	vi	Vihāre	B. line 2
52	35	i	śā	Śākhika	K. Sec. A.
53	35	ii	śi	Śreya	K. Sec. B.
54	36	i	sha	Nagarabhāra	K. Sec. B.
55	37	i	su	Sukhitāne	D. Sec. A.
56	38	i	hā	Vihāre	B. line 2
57	38	ii	hu	Huvakshaya	G. line 1
58	39	i	kha	Huvakshaya	G. line 1
59	39	ii	gra	Grahah	D. Sec. A.
60	39	iii	tvo	Be[illegible]tvo	G. line 2
61	39	iv	dha	Vradhā	K. Sec. A.
62	39	v	nagr	Nagarabhāra	K. Sec. B.
63	39	vi	pri	Priyatā	K. Sec. B.
64	39	vii	pro	Prothma	G. line 1
65	40	i	mbra	Jambra	B. line 2
66	40	ii	vra	Vradhā	K. Sec. A.
67	40	iii	rva	Purva	L. line 1
68	40	iv	rtha	Sarvārtha	L. line 1
69	40	v	rti	Nagarabhāra	K. Sec. B.
70	40	vi	shka	Huvakshaya	L. line 1
71	40	vii	shya	Pra[illegible]	L. line 2
72	41	i	[illegible]	[illegible]	M. Sec. D. line 1
73	41	ii	[illegible]	Huvakshaya	H
74	41	iii	[illegible]	[illegible]	L. line 1
75	41	i	1	[illegible]	L. line 1
76	41	ii	2	[illegible]	G. line 1
77	41	iii	3	[illegible]	
78	41	iv	4		K. Sec. A.

79	43	iv b	4	A line 3
80	43	v	5	E line 1
81	43	vi	7	G line 1
82	43	vii a	8	B line 1
83	43	vii b	8	G line 1
84	44	i	9	E line 1
85	44	ia	9	D Sec A
86	44	ii a	10	G line 1
87	44	ii b	10	K. Sec A
88	44	iii a	20	D line 1
89	44	iii b	20	D Sec A
90	44	iv a	30	E line 1
91	44	iv b	30	D Sec A
92	44	v a	40	F Sec A
93	44	v b	40	G line 1
94	44	vi	50	I line 1
95	44	vii	60	K Sec A

Explanation of Table XXV Plate V

Inscriptions of Vāsudeva years 64 63

References

A Inscription of Vasudeva year 64 (67?) *EI*, XXX, 183 84,

B Inscription of year 74 *EI* IX. 242

C Mathura inscription of year 74 *JRAS*, V 183 no 4

D Inscription of year 80 *EI*, I 392 no 24

E Mathura inscription of year 83, *JRAS*, V p 184 no 6

1	1	i	a	Asya	B line 5
2	4	i	e	Etasya	D line 1
3	6	i	ka	Bhadrakasya	E line 1
4	9	i	gha	Samgha	D line 2
5	10	i	cha	Cha	E line 2
6	12	i	jā	Maharajasya	B line 1
7	20	i	ta	Etasya	E line 1
8	21	i	tha	Prathame	B line 4
9	22	i	da	Danda	B line 6
10	22	ii	de	Devaputrasya	B line 2
11	22	iii	di	Divase	B line 4
12	23	i	dhi	Dhitu	D line 2
13	24	i	na	Linasya	B line 8
14	25	i	pu	Putrasya	B line 2
15	27	i	ba	Balasya	D line 2
16	29	ī	ma	Maharajasya	B line 1
17	30	i	yam	Purvyayam	B line 5
18	30	ii	yam	Purvayam	D line 1
19	31	i	ra	Maharajasya	B line 1
20	32	i	la	Talakiye	B line 6
21	32	ii	li	Linasya	B line 8
22	34	i	va	Devaputrasya	B line 2
23	35	i	śa	Triśa	B line 5
24	37	i	su	Vasu	B line 2
25	37	ii	se	Se	B line 4

Explanation of Table XXVI. Plate V.

Private Inscriptions of years 1-23

References:

A. Inscription of year 4, *JA*, XXXIII, 93, no. 1, pl. *SI*, II, 201, no. 11

B. Inscription of year 5, *JA*, XXXIII, 93, no. 2, pl. [illegible] *JA*, II, 201, no. 12

C. Inscription of year 9, *JA*, X, 110, no. 3

D. Inscription of year 15, *JA*, XIII, no. IV,

E. Inscription of year 15, *JA*, I, 353, no. 2

F. Inscription of year 18, *JA*, II, 202, no. 13

G. Inscription of year 18, *JA*, II, 202, no. 13

H. Inscription of year 19, *JA*, I, 3[illegible], no. [illegible]

I. Inscription of year 20, *JA*, I, 3[illegible], no. 23

J. Inscription of year 23, *JA*, 195, no. 5[illegible]

K. Inscription of year 23, *JA*, 3[illegible], no. 1

L. Inscription of year 23, *JA*, I, 3[illegible], no. 24

1	I	[illegible]	[illegible]	Ata[illegible]	I, [illegible] B
2	I	[illegible]	[illegible]	Ar[illegible]	D, [illegible] 2
3	I	[illegible]	[illegible]	Ar[illegible]	I, [illegible] A,
4	I	[illegible]	[illegible]	[illegible]	I, [illegible] A
5	[illegible]	[illegible]	[illegible]	[illegible]	D, [illegible]
6	[illegible]	[illegible]	[illegible]	[illegible]	D, [illegible] I
7	[illegible]	[illegible]	[illegible]	[illegible]	K, [illegible] 3
8	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] 4
9	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] 4

10	6	iv	ku	Kulato	C line 3
11	6	v	ko	Kolıyāto	D line 1
12	7	ı	kho	Śakhato	B
13	7	ıı	khā	Sukhaya	F Sec C, line 2
14	8	ı	ga	Sabhogato	F Sec B
15	9	ı	gha	(o) ghasya	K Sec A, line 2
16	10	ı	cha	Vachakasya	H line 2
17	10	ıı	cha	Cha	J Sec B, line 2
18	10	ıı	che	Chetena	A Sec A
19	12	ı	ja	Jayabhutı	E Sec B, line 1
20	12	ıı	ju	Vajuka	A Sec A
21	15	ı	ṭu	Kuṭubınıye	C line 2
22	15	ıı	ṭa	Cheṭena	A Sec C
23	16	ı	ṭha	Kuṭhabınıye	J Sec C
24	17	ı	da	Ekradalasya	C line 1
25	18	ı	dha	Sadhacharı	A Sec B
26	19	ı	na	Varanato	L
27	19	ıı	nı	Garı	F Sec B
28	20	ı	to	Kolıyato	C line 2
29	21	ı	thı	Sathı	A Sec B
30	22	ı	da	Danam	I Sec B
31	22	ıı	dı	Dı	F Sec A
32	22	ıı	de	Deva	D line 3
33	23	ı	dhı	Dhıtu	F Sec B
34	23	ıı	dhū	Vadhū	K Sec B line 1
35	24	ı	na	Dınasya	I Sec A
36	24	ıı	nı	Vahınıye	I Sec B
37	24	ıı	nam	Danam	I Sec B
38	24	iv	nam	Śiśıınam	E Sec
39	25	ı	pu	Pusya	A Sec B
40	25	ıı	pu	Pu[jaye]	J Sec C, line 3
41	27	ı	bam	Bambhadasıye	D line 1
42	27	ıı	bı	Kuṭhabınıye	J Sec B line 2
43	28	ı	bha	Bhagavato	G Sec B
44	28	ıı	bhu	Jayabhutı	E Sec B, line 1
45	29	ı	mı	Mıtra	D line 4
46	29	ıı	mı	Mıtrasya	A Sec B
47	29	ıı	mo	Namo	I Sec B
48	30	ı	ya	Kolıyato	C line 2
49	30	ıı	ya	Vachchhalıya	F Sec B
50	30	ıı	ye	Śırıye	F Sec B
51	31	ı	ra	Varanato	L
52	31	ıı	rı	Garıto	A Sec A
53	31	ıı	ru	Rudradeva	D line 3
54	32	ı	lo	Lohavanıyasya	K Sec B, line 1
55	32	ıı	lı	Vachchhalıya	F Sec B
56	33	ı	lı	Kolıyato	C line 2
57	33	ıı	lı	Kolıyato	J Sec A
58	34	ıı	la	Halakıyato	A Sec A
59	34	ı	va	Vaddha	C line 3
60	34	ıı	va	Vahınıye	I Sec B
61	34	ıı	vı	Savıkana	D line 3
62	35	ı	sa	Śakhato	B
63	35	ıı	śı	Śırśınıye	A Sec B
64	37	ı	sa	Saha	A Sec C
65	37	ıı	su	Sukhaya	F Sec C, line 2

66	38	i	ha	Sihasya	J. Sec. B, line 1
67	38	ii	hā	Sihāye	A. Sec. B.
68	38	iii	he	He	C. line 1
69	38	iv	hi	Vāhiniye	I. Sec. B.
70	39	i	ṅga	Saṅga	E. Sec. C, line 1
71	39	ii	ṅgha	Saṅgha	J. Sec. B, line 1
72	39	iii	ṭṭi	Bhaṭṭi	E. Sec. B, line 2
73	39	iv	chchha	Vachchhaliyā	F. Sec. B.
74	39	v	tri	Matridinasya	I. Sec. A.
75	40	i	ryya	Aryya	I. Sec. A.
76	40	ii	dra	Rudradeva	D. line 3
77	40	iii	dri	Bhadrikā	E. Sec. D, line 2
78	40	iv	pra	Pratimā	L.
79	40	v	gri	Gṛiha	A. Sec. C.
80	41	i	gri	Gṛi	F, Sec. A.
81	41	ii	śya	Puśya	A. Sec. B.
82	41	iii	śrā	Śrāvikāye	J. Sec. C, line 1
83	41	iv	sya	Sya	B. in the begining
84	41	v	sya	Vāchakasya	I. Sec. A.
85	42	i	bra	Brahma	K. Sec. A.
86	42	ii	rddha	Varddhamānaṁ	J. Sec. C, line 3
87	42	iii		Visarga	I. Sec. B.
88	42	iv		Punctuation mark	I. Sec. A.
89	42	v		,, ,,	H. Sec. A, line 1
90	43	i	3	.....	C. line 1
91	43	ii	4	.....	D. line 1
92	43	iii	4	.....	F. Sec. A.
93	43	iv	5	.....	E. Sec. A, line 1
94	43	v	8	.....	G. Sec. A. line
95	44	i	8	.....	F. Sec. A.
96	44	ii	9	.....	C. line 1
97	44	iii	10	.....	C. line 1
98	44	iv	10	.....	F. Sec. A.
99	44	v	20	.....	A. Sec. A.

Explanation of Table XXVII. Plate V.

Private Inscriptions : years. 25–98

References :

A. Inscription of year 25. *EI*, I. 334 no. 5
B. Inscription of year 26. Lüders, *MI*, p. 62. pl. on p. 268
C. Inscription of year 28. *IA*, VI. 217. no. 1
D. Inscription of year 31. *EI*, II. 202. no. 15
E. Inscription of year 32. *EI*, II. 203. no. 16
F. Inscription of year 35. *EI*, I. 285. no. 7
G. Inscription of year 45. *EI*, I. 387. no. 10
H. Inscription of year 47. *EI*, I. 396. no. 30
I. Inscription of year 49. *EI*, II. 204. no. 20
J. Inscription of year 50. *EI*, II. 203. no. 17
K. Inscription of year 50. *EI*, II. 209. no. 36
L. Inscription of year 52. *EI*, II. 203. no. 18
M. Inscription of year 54. *EI*, I. 391. no. 21
N. Inscription of year 62. *EI*, II. 204. no. 19
O. Inscription of year 77. *JRAS*, V. 183. no. 2
P. Inscription of year 81. *EI*, II. 204. no. 21

Q Inscription of year 86 *EI*, I 388 no 12
R Inscription of year 87 *EI*, I 388 no 13
S Inscription of year 90 *EI*, II 205 no 22
T. Inscription of year 92 *EI*, XXXIV 11,
U Inscription of year 93 *EI*, II 205 no 23
V. Inscription of year 95 *EI*, I 392 no 22
W Inscription of year 98 *EI*, II 205 no 24

1	1	i	a	Ayabala	A Sec B line 1
2	1	ii	a	Asya	D Sec A
3	1	iii	a	Aryya	L line 3
4	1	iv	a	Ante	P line 1
5	1	v	a	Asya	T line 1
6	2	i	i	Vairato	F Sec B
7	2	ii	i	Iti	B line 1
8	2	iii	i	Vairaya	I line 1
9	3	i	u	Uche	A Sec B, line 1
10	4	i	e	Etasya	P line 1
11	4	ii	e	Etasya	N line 1
12	6	i	ku	Kakuhasya	N line 1
13	6	ii	ku	Kulato	D Sec B, line 1
14	6	iii	ku	Kuṭumbiniye	D Sec B, line 1
15	6	iv	ku	Kulato	L line 2
16	6	v	ko	Vachako	L line 3
17	7	i	kha	Śakhaya	I line 1
18	7	ii	kha	Śakhato	D, Sec B line 1
19	7	iii	khe	Mukhehi	B line 6
20	8	i	gu	Mangu	L line 3
21	8	ii	go	Goṭṭikasya	L line 4
22	9	i	gha	Ghastu	L line 2
23	10	i	cha	Vachakasya	N line 2
24	10	ii	che	Cherasya	J line 2
25	12	i	ja	Pujaye	U Sec B, line 2
26	12	ii	ji	Jivaye	P line 1
27	13	i	jha	Majhamato	S line 2
28	15	i	ṭu	Tubaniye	S line 1
29	16	i	ṭha	Thaniyato	V, line 1
30	18	i	dha	Shadhacharo	L line 3
31	19	i	na	Ganato	F Sec A
32	19	ii	na	Dana	D Sec B, line 2
33	19	iii	na	Naka	L line 4
34	19	iv	ne	Khune	D Sec A
35	20	i	ta	Divitasya	L line 3
36	20	ii	ta	Tasa	N line 2
37	20	iii	to	Varato	D Sec B, line 1
38	20	iv	ti	Sarasvati	M line 6
39	21	i	tha	Pratha	Li line D 1
40	21	ii	thu	Thupe	I Sec B
41	21	iii	thu	Mathuri	B line 3
42	22	i	da	Pida	K line 5
43	22	ii	da	Dasasya	D Sec B, line 2
44	22	iii	di	Di	D. Sec A
45	22	iv	di	Divasa	L line 1
46	23	i	dhi	Dhitu	D Sec B, line 2
47	24	i	ni	Nivartana	D Sec B, line 2
48	24	ii	na	Vamanīnam	B line 5

49	24	iii	naṁ	Yamānānaṁ	B. line 5
50	25	i	pi	Pida	K. line 5
51	25	ii	pu	Putrasya	L. line 4
52	25	iii	pū	Pūsha	J. line 5
53	25	iv	pū	Pūrvva	T. line 1
54	25	v	pe	Thupe	I. Sec. B.
55	27	i	ba	Balo	N. line 2
56	27	ii	bu	Buddhisya	D. Sec. B, line 2
57	28	i	bha	Bhatibala	S. line 2
58	28	ii	bhā	Bhāryya	I. Sec. B.
59	28	iii	bhi	Bhikshusya	T. line 2
60	29	i	ma	Śrama	L. line 3
61	29	ii	mā	Yamānānaṁ	B. line 5
62	29	iii	mu	Mukhehi	B. line 6
63	30	i	ya	Ayasa	Q. line 2
64	30	ii	ya	Pūrvyāya	I. Sec. A, line 1
65	30	iii	yā	Yāto	D. Sec. B, line 1
66	30	iv	yu	Yudhadinasya	J. line 3
67	31	i	rā	Vairāya	J. Sec. A, line 1
68	31	ii	re	Saṁvatsare	A. Sec. A.
69	31	iii	ro	Shadhacharo	L. line 3
70	32	i	la	Kulato	L, line 3
71	32	ii	lā	Śailā	B. line 4
72	32	iii	lo	Balo	N. line 2
73	33	i	ḷa	Koḷayāto	A. Sec. B.
74	33	ii	ḷi	Kaḷiyāto	M. line 2
75	33	iii	ḷi	Kaḷiyāto	L. line 2
76	34	i	va	Vadha.....	K. line 5
77	34	ii	vi	Deyilasya	D. Sec. B, line 2
78	34	iii	vi	Panchaviśa	L line 1
79	34	iv	ve	Verāto	L. line 2
80	34	v	vo	Vodve	I. Sec. B.
81	35	i	śā	Śākhato	D. Sec. B, line 1
82	35	ii	śi	Śishyo	L. line 3
83	35	iii	śi	Śishya	R.
84	35	iv	śū	Śūrasya	B. line 3
85	35	v	śai	Śailā	B. line 4
86	36	i	sha	Pūsha	J. line 5
87	36	ii	sho	Śisho	N. line 1
88	37	i	sa	Tasa	N. line 2
89	37	ii	sa	Sa	D. Sec. A.
90	37	iii	sa	Divasa	M. line. 1
91	37	iv	sa	Savatsare	A. Sec. A.
92	38	i	ha	Hastisya	L. line 3
93	38	ii	ha	Gṛiha	P. line 2
94	38	iii	hā	Mahāvirasya	U. Sec. A.
95	38	iv	hi	Mahika	K. line 5
96	38	v	he	Hemaṁta	A. Sec. A.
97	39	i	dve	Vodve	I. Sec. B.
98	39	ii	dyā	Dyāpanā	L. line 1
99	39	iii	ndi	Nandi	I. Sec. A, line 2
100	39	iv	ndi	Nandi	R.
101	39	v	pña	Pñacha	A. Sec. A.
102	39	vi	ryya	Spāryya	L. line 3
103	39	vii	ryya	Spāryya	L. line 2

104	40	i	ryya	Aryya	D Sec B line 1
105	40	ii	rvva	Purvva	I Sec A, line 1
106	40	iii	rvva	Sarvva	L line 4
107	40	iv	vri	Vṛidha	I Sec A, line 2
108	40	v	mba	Kuṭumbiniye	D Sec B, line 1
109	40	vi	shna	Vishna	K line 5
110	40	vii	kshu	Khune	D Sec A
111	41	i	sya	Dasasya	D Sec B, line 2
112	41	ii	sya	Etasya	P line 1
113	41	iii	sya	Mahavirasya	U Sec A
114	41	iv	sya	Cherasya	J line 2
115	41	v	bhra	Bhratrika	B line 4
116	41	vi	śra	Śrama	L line 3
117	41	vii	ndra	Nagendra	B line 2
118	42	i	ṭṭi	Goṭṭikasya	L line 4
119	42	ii	tra	Putrasya	L line 4
120	42	iii	rnna	Dadhikarnna	B line 2
121	42	iv	stu	Stu	L line 4 last letter
122	42	v	tri	Bhratṛika	B line 4
123	42	vii	90		U Sec A
124	42	viii	90		T line 2
125	43	i	4		I Sec A, line 1
126	43	iia	5		L line 1
127	43	iib	5		N line 1
128	43	iiia	6		Q line 1
129	43	iiib	6		P line 2
130	43	iva	7		H line 1
131	43	ivb	7		O
132	43	v	9		I Sec A, line 1
133	43	vi	10		M line 1
134	43	vii	10		D Sec A
135	44	ia	20		L line 1
136	44	ib	20		I Sec A, line 1
137	44	ii	30		D Sec A
138	44	iiia	40		I Sec A, line 1
139	44	iiib	40		H line 1
140	44	iva	50		J line 1
141	44	ivb	50		M line 1
142	44	v	60		N line 1
143	44	vi	70		O
144	44	vii	80		Q line 1

Explanation of Table XXVIII Plate V

Sanchi Inscription of Vaskusāna year 22

Reference Marshall *Monuments of Sañchi* pl CXXXVIII

1	8	i	ga	Bhagavato	line 1
2	10	i	cha	Cha	line 2
3	19	i	na	Vaskushanasya	line 1
4	20	i	to	Bhagavato	line 1
5	22	i	di	Di	line 1
6	25	i	pi	Pratishṭapitā	line 1
7	28	i	bha	Bhagavato	line 1

8	29	i	mi	Vidyamatiye	line 1
9	30	i	ye	Vidyamatiye	line 1
10	31	i	rā	Rājño	line 1
11	34	i	va	Vaskushāṇasya	line 1
12	35	i	śa	Śakk[ya]	line 1
13	36	i	shā	Vaskushāṇasya	line 1
14	37	i	sa	Sa	line 1
15	38	i	hi	Hita	line 2
16	39	i	kka	Śakk[ya]	line 1
17	39	ii	jño	Rajño	line 1
18	40	i	dya	Vidyamatiye	line 1
19	40	ii	pra	Pratishṭāpitā	line 1
20	41	i	rvva	Sarvva	line 2
21	41	ii	shṭā	Pratishṭāpitā	line 1
22	42	i	sku	Vaskushāṇasya	line 1
23	42	ii	sya	Vaskushāṇasya	line 1
24	43	i	2	.....	line 1
25	43	ii	10	.....	line 1
26	44	i	20	.....	line 1

Explanation of Table XXIX. Plate VI.

Sārnāth, Sahet-Mahet and Kosam Inscriptions of Kanishka.

References :

A. Kosam inscription of Kanishka : year 2. *EI*, II. 212.

B. Sārnāth inscription of Kanishka : year 3. *EI*, VIII. 176-79.

C. British Museum inscription of Kanishka : year 10. *EI*, IX. 240

D. Sahet-Mahet inscription of year 19. *EI*, VIII. 181

E. Sahet-Mahet umbrella staff inscription. *EI*, X. 291.

1	1	i	a	Ante	B. line 7
2	3	i	u	Upadhyāyā	B. line 6
3	4	i	e	Etaye	C. line 3
4	6	i	ka	Kaṇishkasya	A. line 1
5	6	ii	kā	Kāṇishkasya	C. line 2
6	6	iii	ko	Kosabiye	E. line 7
7	7	i	kha	Kharapallana	B. line 8
8	7	ii	khu	Bhikhuṇi	A. line 2
9	8	i	ga	Bhagavato	D. line 2
10	8	ii	ga	Bhagavato	D. line 2
11	10	i	cha	Chaṇḍaścha	E. line 6
12	10	ii	chaṁ	Chaṁkame	D. line 2
13	11	i	chha	Chhatraṁ	E. line 6
14	11	ii	chhā	Chhātraṁ	D. line 2
15	12	i	ja	Maharājasya	C. line 1
16	15	i	ṭi	Kuṭiye	D. line 3
17	19	i	ṇi	Kanishkasya	B. line 1
18	19	ii	ṇi	Bhikhuṇi	A. line 2
19	19	iii	ṇi	Kaṇishkasya	B. line 1
20	20	i	ti	Bayati	A. line 2
21	20	ii	to	Bhagavato	A. line 2
22	22	i	di	Vādinaṁ	E. line 8
23	22	ii	de	Devi	C. line 5

24	22	iii	de	Devaputra	C line 1
25	23	i	dhi	Bodhi	A line 1
26	34	i	na	Navamika	C line 4
27	24	ii	na	Vanasparena	B line 8
28	25	i	pu	Purvaye	C line 3
29	27	i	bu	Buddhasa	A line 2
30	27	ii	bo	Bodhi	B line 4
31	27	iii	bo	Bodhi[sa]tvo	E line 6
32	28	i	bhi	Bhikhuni	A line 2
33	28	ii	bhi	Bhikshusya	B line 2
34	28	iii	bha	Bhagavato	D line 2
35	29	i	ma	Maharajasya	C line 1
36	29	ii	me	Chamkame	D line 2
37	30	i	ye	Etaye	C line 3
38	30	ii	ye	ye	B 1 8 first letter
39	31	i	rā	Maharaja	A line 1
40	31	ii	ri	Vihārisya	D line 2
41	32	i	la	Balasya	B line 3
42	34	i	va	Bhagavato	A line 2
43	34	ii	va	Devaputrasya	C line 1
44	34	iii	vi	Devi	C line 5
45	35	i	śā	Śāvastiye	E line 1
46	36	i	shā	Parishāhi	B line 6
47	37	i	si	Siddha	C line 1
48	37	ii	sam	Kosambakuṭiye	D line 3
49	38	i	ha	Maharājasya	C line 1
50	38	ii	hā	Vihārisya	D line 2
51	39	i	kshu	Bhikshusya	D line 1
52	39	ii	tre	Trepiṭakasya	D line 2
53	39	iii	nda	Chandaścha	E line 6
54	40	i	ddha	Buddhamitra	A line 2
55	40	ii	ddhye	Saddhye	D line 2
56	40	iii	rttha	Sukharttha	B line 10
57	41	i	lla	Kharapalla	B line 8
58	41	ii	ścha	Chaṇḍaścha	E line 6
59	41	iii	shṭha	Pratishṭhapita	B line 4
60	42	i	shka	Kanishkasya	C line 2
61	42	ii	sya	Maharajasya	A line 1
62	43	i	8		A. line 1
63	43	ii	9		C line 3
64	43	iii	9		D line 1
65	44	i	10		C line 2
66	44	ii	10		D line 1
67	44	iii	20		B line 1

Explanation of Table XXX Plate VI

Inscriptions of the Kushāna Times

References

A Allahabad Museum Inscription of year 23
EI, XXIV 250-1.

B Sārnāth Inscription of Aśvaghosha year 40
EI, VIII 172.

C. Prahlādpur Pillar Inscription, Fleet, *CII*, III. 250. pl. XXXVI. A.

1	1	i	a	Aśvaghosha	B.
2	2	i	i	Iha	C.
3	2	ii	i	Iva	C.
4	2	iii	ı	Iti	A. line 16
5	3	i	u	Uchhṛitaḥ	A. line 1
6	5	i	o	Oghala	B. II, on the same plate
7	6	i	kī	Kīrtiḥ	C.
8	6	ii	kau	Kaubidāri	A. line 12
9	7	i	khe	Pakhe	B.
10	9	i	gho	Aśvaghosha	B.
11	9	ii	gho	Ghosha	B. II, on the same plate
12	10	i	cha	Chatariśe	B.
13	10	ii	cha	Paṁchamaṁ	A. line 3
14	11	i	cha	Savachhare	B.
15	12	i	ja	Vijaya	C.
16	19	i	ṇe	Mantriṇe	A. line 8
17	20	i	ta	Chatariśe	B.
18	20	ii	ti	Ti	A. line 10, first letter
19	21	i	tha	Prathama	A. line 4
20	22	i	da	Dasame	B. line 1
21	22	ii	dā	Dātveva	A. line 10
22	22	iii	di	Divase	B.
23	25	i	pā	Pālaḥ	C.
24	25	ii	pu	Vipula	C.
25	26	i	pha	Phalāḥ	A. line 13
26	27	i	bı	Kaubidāri	A. line 12
27	28	i	bho	Bhogya	A. line 14
28	29	ı	ma	Paṁchamaṁ	A. line 3
29	29	ıı	mu	Samuchhṛitaḥ	A. line 2
30	30	ı	ya	Vıjaya	C.
31	30	ıı	yū	Yūpa	A. line 1
32	30	iii	yo	[Tṛitī]yo	A. line 1
33	31	i	rā	Rājño	A. line 9
34	31	ii	ri	Chatariśe	B.
35	32	i	la	Vipula	C.
36	32	ii	lāḥ	Phalāḥ	A. line 13
37	32	iii	lo	Lo	C. last letter.
38	34	i	vi	Vıjaya	C.
39	34	ıı	vīṁ	Vīṁśa	A. line 7
40	35	i	śı	.....Śi.....	C.
41	35	ii	śe	Viṁśe	A. line 7
42	36	ı	sha	Ghosha	B.
43	37	i	sa	Samuchhṛitaḥ	A. line 2
44	37	ii	sa	Dasame	B.
45	37	iii	sa	Sıtata	C.
46	38	i	ha	Iha	C.
47	38	ii	he	Hemata	B.
48	39	i	kra	Krama	A. letter between the lines 4-5.

49	39	ii	kri	Krita	A line 10
50	39	iii	kta	Bhoktavya	A line 15
51	39	iv	ksha	Kshatrasa	C
52	39	v	kshi	Dakshinam	A line 10
53	39	vi	gri	Agri	A line 3
54	39	vii	gri	Grihya	A line 12
55	39	viii	chhri	Uchhritah	A line 1
56	39	ix	jña	Rajña	A line 6
57	40	i	jño	Rajño	A line 9
58	40	ii	ñcha	Pañcha	C
59	40	iii	tra	Chhatrasa	C
60	40	iv	tkri	Tkritah	A line 16
61	40	v	dbhih	Dbhih	A line 15, beginning of the line
62	40	vi	dya	Mādya	A line 6
63	40	vii	nyu	Vanyū	A line 5
64	40	viii	pta	Saptama	A line 5
65	40	ix	pra	Prathame	A line 4
66	41	i	pri	Priti	A line 16
67	41	ii	bhṛa	Bhrita	A line 14
68	41	iii	rtih	Kirtih	C
69	41	iv	rtthah	Hartthah	C
70	41	v	rtha	Chaturtha	A line 2
71	41	vi	rthi	Parthiva	C
72	41	vii	ddha	Saddharma	C
73	41	viii	rva	Sarva	A line 14
74	41	ix	rma	Dharma	C
75	42	i	rshe	Varshe	A line 7
76	42	ii	vri	Vritah	A line 11
77	42	iii	śya	Aśvaghoshasya	B
78	42	iv	sva	Maheśvara	A line 16
79	42	v	sya	Praveśya	A line 14
80	42	vi	śri	Śri	A line 2
81	42	vii	shṭo	Agnishṭoma	A line 3
82	42	viii	hya	Grihya	A line 12
83	42	ix	sya	Aśvaghosasya	B
84	43	i	1		A line 8
85	43	ii	2		A line 9
86	43	iii	3		A line 10
87	43	iv	4		A line 11
88	43	v	5		A line 3
89	43	vi	6		A line 4
90	43	vii	7		A line 5
91	43	viii	8		A line 6
92	43	ix	9		A line 7

Explanation of Table XXXI Plate VI

Mathurā Inscriptions of Kanishka. (Eastern Style)

References A Inscription of Kanishka year 4
EI, XXXIV 10

B Inscription of Kanishka year 14
EI, XIX 97

1	1	i	a	Asmim	B line 1
2	1	ii	a	Anena	A line 2

3	1	iii	ā	Ācha	A. line 2
4	4	i	e	Etasya	A. line 1
5	6	i	ka	Kaṇi	B. line 1
6	8	i	ga	Bhagavato	B. line 2
7	9	i	ghi	Saṁghita	B. line 2
8	12	i	ja	Maharāja	B. line 1
9	12	ii	jā	Pūjārthaṁ	B. line 2
10	19	i	ṇi	Kaṇi	B. line 1
11	19	ii	ṇāṁ	Pitṛiṇāṁ	A. line 2
12	19	iii	ni	Kaṇishkasya	A. line 1
13	20	i	ta	Svamatasya	B. line 2
14	20	ii	ta	Etasya	A. line 1
15	20	iii	to	Bhagavato	B. line 2
16	22	i	di	Divasa	B. line 1
17	22	ii	du	Dukkha	B. line 3
18	22	iii	de	Deva	B. line 1
19	24	i	na	Parityāgena	A. line 2
20	25	i	pu	Putrasya	B. line 1
21	25	ii	pū	Pūjārthaṁ	B line 2
22	25	iii	pau	Pausha	B. line 1
23	27	i	bu	Buddhaye	B. line 2
24	28	i	bha	Bh[ā]ryyā	B. line 2
25	28	ii	bha	Bhagavato	B. line 2
26	29	i	ma	Maharāja	B. line 1
27	29	ii	ma	Pitāmahasya	B. line 2
28	29	iii	ma	Mahārājasya	A. line 1
29	30	i	ya	Payati	B. line 3
30	30	ii	yaṁ	Purvvāyaṁ	A. line 1
31	31	i	rā	Maharāja	B. line 1
32	31	ii	rā	Mahārājasya	A. line 1
33	31	iii	ri	Vihārisya	A. line 1
34	31	iv	re	Savatsare	B. line 1
35	32	i	lā	Saṁghilā	B. line 2
36	34	i	va	Deva	B. line 1
37	34	ii	vi	Vihārisya	A. line 1
38	36	i	sha	Pausha	B. line 1
39	37	i	sa	Sarvva	B. line 1
40	37	ii	sa	Savatsare	B. line 1
41	37	iii	saṁ	Saṁghila	B. line 2
42	38	i	ha	Maharāja	B. line 1
43	38	ii	hā	Mahārājasya	A. line 1
44	38	iii	hā	Mahā	A. line 2
45	38	iv	hu	Hummiyaka	A. line 2
46	39	i	kkha	Dukkha	B. line 3
47	39	ii	ṇda	Daṇḍanāyaka	A. line 2
48	39	iii	tra	Putrasya	B. line 1
49	39	iv	tsa	Savatsare	B. line 1
50	40	i	ddha	Buddha	B. line 2
51	40	ii	ddhya	Sāddhya	A. line 1
52	40	iii	pra	Prahanārtthaṁ	B line 3
53	40	iv	rttha	Prahaṇārtthaṁ	B. line 3
54	41	i	ryyā	Bhāryyā	B. line 2
55	41	ii	rvva	Sarvva	B. line 2
56	41	iii	rvva	Purvvayaṁ	A. line 1
57	41	iv	shka	Kanishkasya	B. line 1
58	42	i	shṭhā	Pratishṭhā	B line 2

59	42	ii	smim	Asmim	B. line 1
60	42	iii	sya	Putrasy	B. line 1
61	42	iv	sya	Svamatasya	B line 2
62	43	i	4		B line 1
63	43	ii	4		A line 1
64	43	iii	10		B line 1
65	43	iv	10		A line 1

Explanation of Table XXXII Plate VI

Mrthurā Inscription of Huvishka year 33

(Eastern Style)

References *EI* VIII 182

1	1	i	a	Ante	line 1
2	6	i	ka	Trepiṭakasya	line 1
3	7	i	khu	Bhikhuniye	line 2
4	8	i	gi	Bhāgineyiye	line 2
5	12	i	ja	Maharajasya	line 1
6	15	i	ṭa	Trepiṭaksya	line 1
7	19	i	ni	Bhikhuniye	line 2
8	21	i	tha	Pratithāvito	line 2
9	22	i	di	Di	line 1
10	22	ii	de	Devaputrasya	line 1
11	23	i	dhi	Bodhi	line 2
12	24	i	na	Dhanavatiye	line 2
13	25	i	pi	Pitakasya	line 1
14	25	ii	pu	Devaputrasya	line 1
15	27	i	ba	Balasya	line 1
16	27	ii	bu	Buddhamitrāye	line 1
17	27	iii	bo	Bodhisatva	line 2
18	28	i	bhi	Bhikshusya	line 1
19	28	ii	bhi	Bhikhuniye	line 2
20	29	i	ma	Mahārajasya	line 1
21	29	ii	mā	Mātā	line 2
22	30	i	yi	Bhagineyiye	line 2
23	30	ii	ye	Bhikhuniye	line 2
24	31	i	ra	Mahārajasya	line 1
25	32	i	la	Balasya	line 1
26	34	i	va	Davaputrasya	line 1
27	37	i	sa	Sahā	line 2
28	37	ii	sam	Sam	line 1
29	38	i	hā	Sahā	line 2
30	38	ii	ha	Mahārajasya	line 1
31	38	iii	hu	Huvishkasya	line 1
32	39	i	kshu	Bhikshusya	line 1
33	39	ii	gri	Gri	line 1
34	39	iii	tra	Putrasya	line 1
35	40	i	tre	Trepiṭakasya	line 1
36	40	ii	ddha	Buddhamitraya	line 1
37	40	iii	nte	Ante	line 1
38	41	i	shka	Huvishkasya	line 1
39	41	ii	sya	Trepiṭakasya	line 1
40	41	iii	sya	Balasva	line 1
41	42	i	sya	Devaputrasya	line 1

42	42	ii	sya	Mahārajasya	line 1
43	43	i	3	....	line 1
44	43	ii	8	....	line 1
45	43	iii	30	.. ..	line 1

Explanation of Table XXXIII. Plate VI.

Inscriptions of Kosam and Bāndhogarh Region : year 52-108

References :

A. Ginja inscription of Bhīmasena : year 52. *EI*, III. pl. opp. p. 306.

B. Kosam inscription of Bhadramagha : year 81. *EI*, XXIV. 256.

C. Allahabad Museum inscription of year 87. *EI*. XXIII. 247-8.

D. Kosam inscription of Śivamagha. *EI*, XVIII. 159. no. 2.

E. Kosam inscription of Bhadramagha : year 88. *EI*, XVIII. 160. no. 3.

F. Kosam inscription of Vaiśravaṇa : year 107. *EI*, XXIV. 147.

G. Inscriptions from Bāndhogarh. *EI*, XXXI. 167-86.

H. Kalivan inscription of Viśākhamitra : year, 108. *EI*, XXXI. 231.

1	1	i	a	Acha	C. no. B, line 5
2	1	ii	a	Ayayādāvadāra	E. line 4
3	1	iii	ā	Āsana	B. line 2
4	1	iv	a	Amechena	G. no. IX, line 3
5	4	i	e	Etaya	A. line 1
6	4	ii	e	Ekasīte	B. liue 1
7	4	iii	e	Etaye	B. line 2
8	6	i	ka	Katsa	B. line 2
9	6	ii	ku	Kulika	A. line 2
10	7	i	kha	Khanita	G. no. I, line 3
11	8	i	gi	Gi	A. line 1
12	8	ii	gu	Phagusamaka	G. no. VI, line 1
13	9	i	gha	Maghasya	G. no. B, line 3
14	9	ii	ghe	Maghe	G. no. IX, line 3
15	10	i	cha	Cha	C. no. B, line 4
16	10	ii	cha	Cha	C. no. A, line 4
17	11	i	chhī	Kochhīputasa	G. no. VI, line 1
18	12	i	ja	Rajasya	B. line 1
19	12	ii	ja	Maharājasya	A. line 1
20	12	iii	ja	Rājasya	C. no. B, line 1
21	16	i	ṭha	Poṭhasiri	G. no. VI, line 1
22	19	i	ni	Śreṇiye	B. line 2
23	20	i	ti	Mati	F. line 6
24	21	i	thi	Thikasa	G. no. VI, line 2
25	22	i	di	Divase	E. line 2
26	22	ii	di	Divase	A. line 1
27	22	iii	di	Divase	G. no. I, line 2
28	24	i	na	Senasya	A. line 1
29	24	ii	na	Āsanapaṭṭā	B. line 2
30	24	iii	pi	Śānikāya	C. no. B, line 5

31	24	iv	na	Nama(mo)	F line 15
32	25	i	pa	Paksha	C no B, line 2
33	25	ii	pu	Puravayam	A line 2
34	25	iii	po	Poṭhasiri	G no VI, line 1
35	26	i	pha	Phagusamaka	G no I, line 3
36	27	i	be	Kosambeyasa	G no VI, line 1
37	28	i	bha	Bhadramaghasya	C no B, line 1
38	28	ii	bha	Bhadrama	C no A, line 1
39	28	iii	bhi	Bhimasenasya	A line 1
40	29	i	ma	Maharajasya	A line 1
41	29	ii	ma	Maharajasya	C no B, line 1
42	29	iii	ma	Maharajasya	B line 1
43	29	iv	ma	Maharajasa	G no VI, line 1
44	30	i	ya	Etaya	C no B line 3
45	30	ii	ya	Etaya	G no VI line 1
46	31	i	ru	Puruvaya(m)	C no B, line 3
47	31	ii	ru	Puruvaya(m)	C. no A, line 3
48	32	i	la	Madgala(li)	C no B, line 4
49	32	ii	li	Kulika	A, line 2
50	34	i	va	Savatsar(e)	C no B, line 1
51	34	ii	va	Suvanakaro	G no I, line 4
52	35	i	śa	Śavikaya	C no B, line 5
53	36	i	sha	Shaṇḍhakena	C no B, line 5
54	37	i	sa	Savatsare	C no B, line 5
55	37	ii	sau	Saudaryyehi	C no B, line 4
56	37	iii	si	Poṭhasiri	G no IX, line 2
57	37	iv	sa	Parigahitasa	G no IX, line 1
58	37	v	sam	Samvachhare	G no VI line 1
59	38	i	ha	Maharajasya	A line 1
60	38	ii	ha	Maharajasya	B line 1
61	38	iii	ha	Maharajasya	C no B, line 1
62	38	iv	hi	Putrehi	C no B, line 4
63	38	v	ha	Maharajasa	G no VI line 1
64	38	vi	hi	Sahiyam	G no VI, line 2
65	39	i	kshe	Pakshe	A line 1
66	39	ii	gri	Grishma	B line 1 (right side)
67	39	iii	ncha	ñchama	C no B, line 3
68	39	iv	ṭṭa	Paṭṭa	C no B, line 6
69	39	v	ndha	Shandhakena	C no B line 5
70	39	vi	nva	Pushkarinya(m)	C no B, line 5
71	40	i	tre	Putrehi	C no B, line 4
72	40	ii	tsa	Savatsare	C no B, line1
73	40	iii	tsa	Savatsare	C no B, line 1
74	40	iv	dga	Madgal(i)	C no B line 4
75	40	v	ddhi	Siddhi	A line 2
76	40	vi	dra	Bhadra	C no A, line 1
77	41	i	bhra	Bhrat(ii)hi	C no B, line 4
78	41	ii	rmma	Dharmma	C no B, line 6
79	41	iii	ryye	Saudaryyehi	C. no B, line 4
80	41	iv	rsha	Varsha	C no B, line 2
81	41	v	lla	Pali[a]naka	C no A, line 3
82	41	vi	sri	Śri	C no B, line 1
83	42	i	sri	Śri	A line 1
84	42	ii	shma	Grishma	B line 1, (right side)

85	42	iii	sya	Maharājasya	A. line 1
86	42	iv	sya	Maharājasya	B. line 1
87	43	i	2	....	A. line 1
88	43	ii	5	....	C. no. B, line 3
89	43	iii	7	.....	C. no. B, line 2
90	43	iv	10	.....	A. line 1
91	43	v	50	... .	A. line 1
92	43	vi	80	.....	C. no. B, line 2
93	44	i	6	... .	G. no. VI, line 1
94	44	ii	6	.....	G. no. IX, line 2
95	44	iii	8	..... .	H.
96	44	iv	100	.....	H.
97	44	v	100	.....	F. line 3

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PLATES

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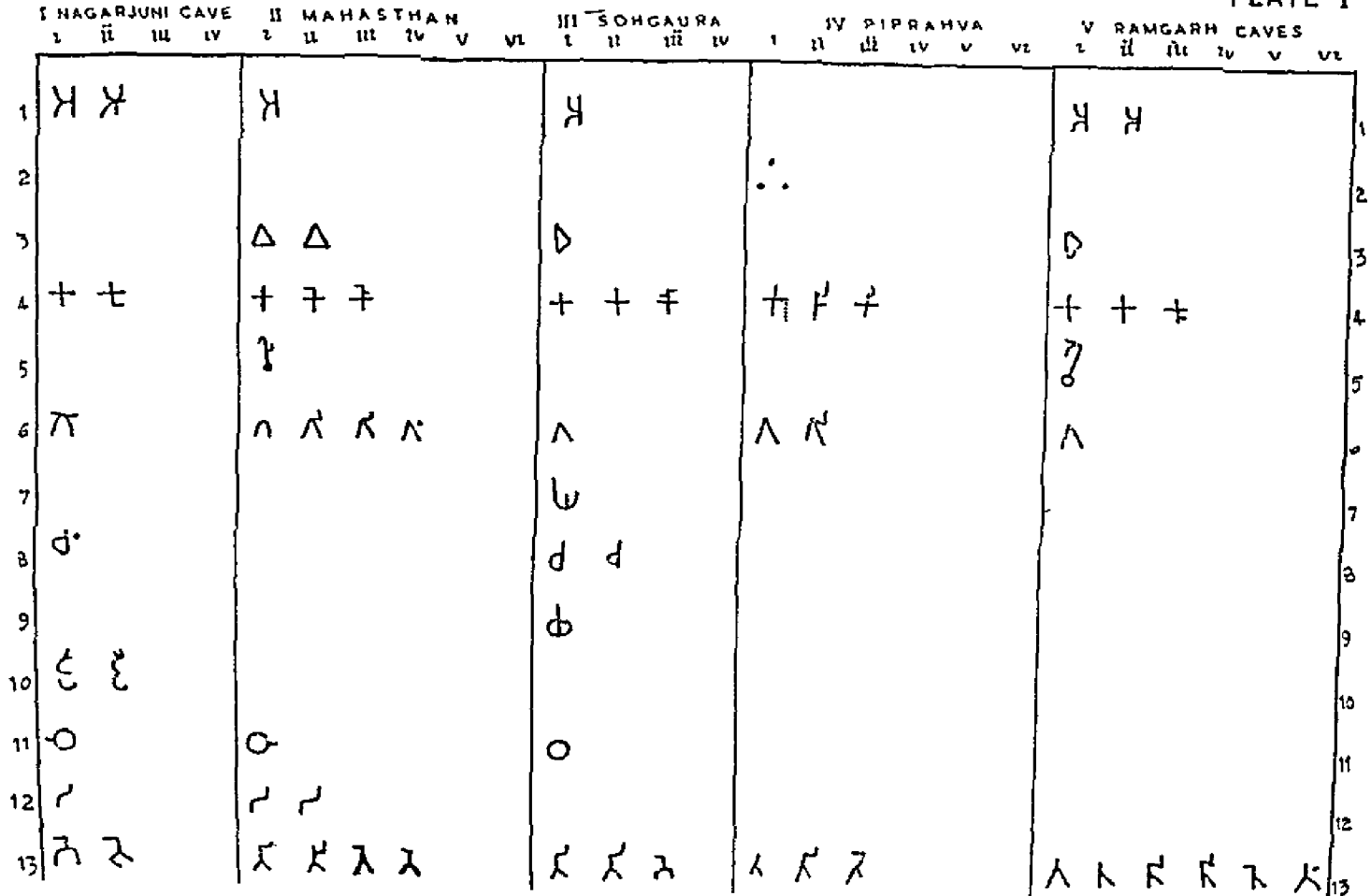
I NAGARJUNI CAVE
i ii iii iv
II MAHASTHAN
i ii iii iv v vi
III SOHGAURA
i ii iii iv
IV PIPRAHVA
i ii iii iv v vi
V RAMGARH CAVES
i ii iii iv v vi
1
2
3
4
5
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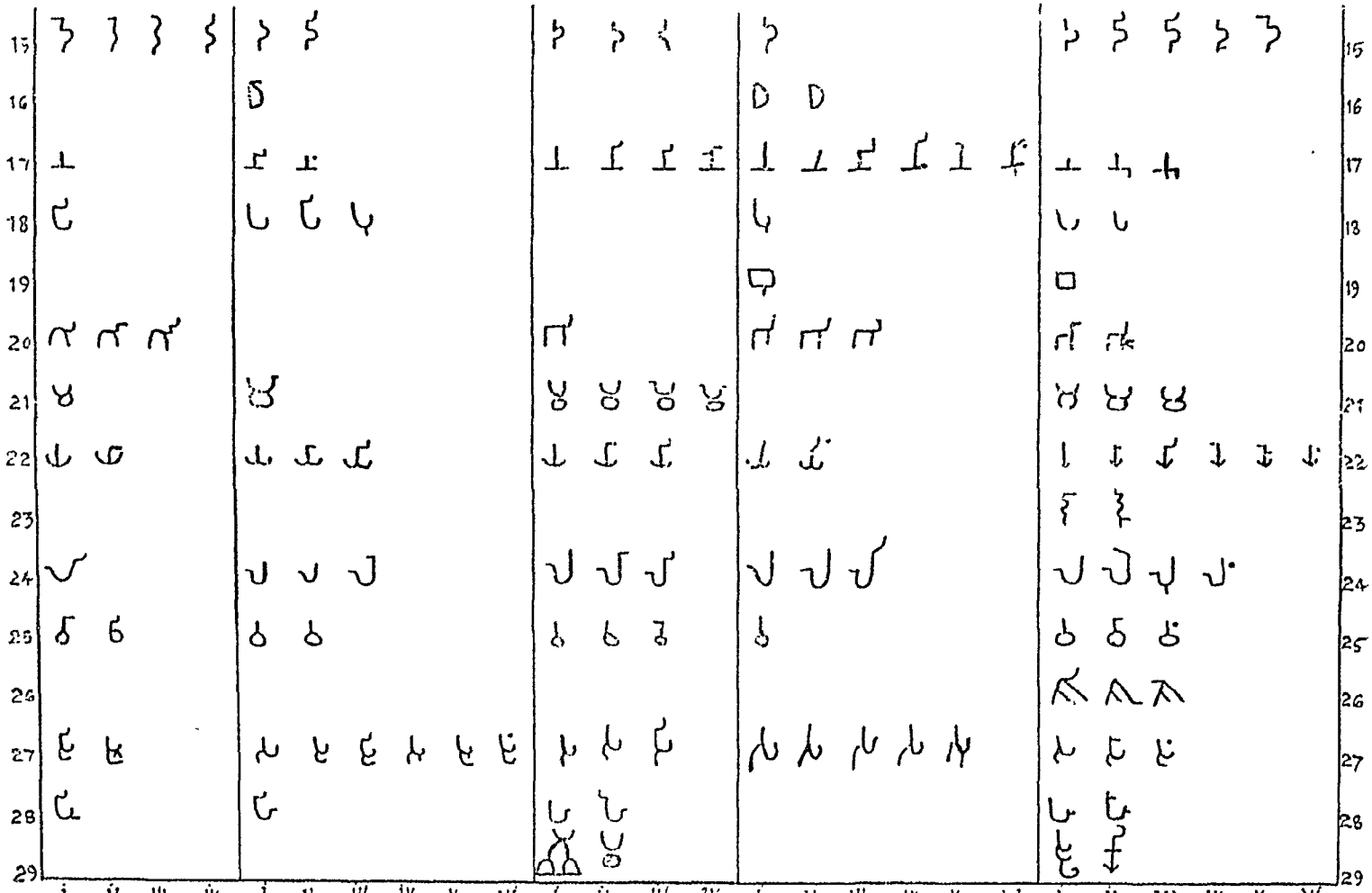
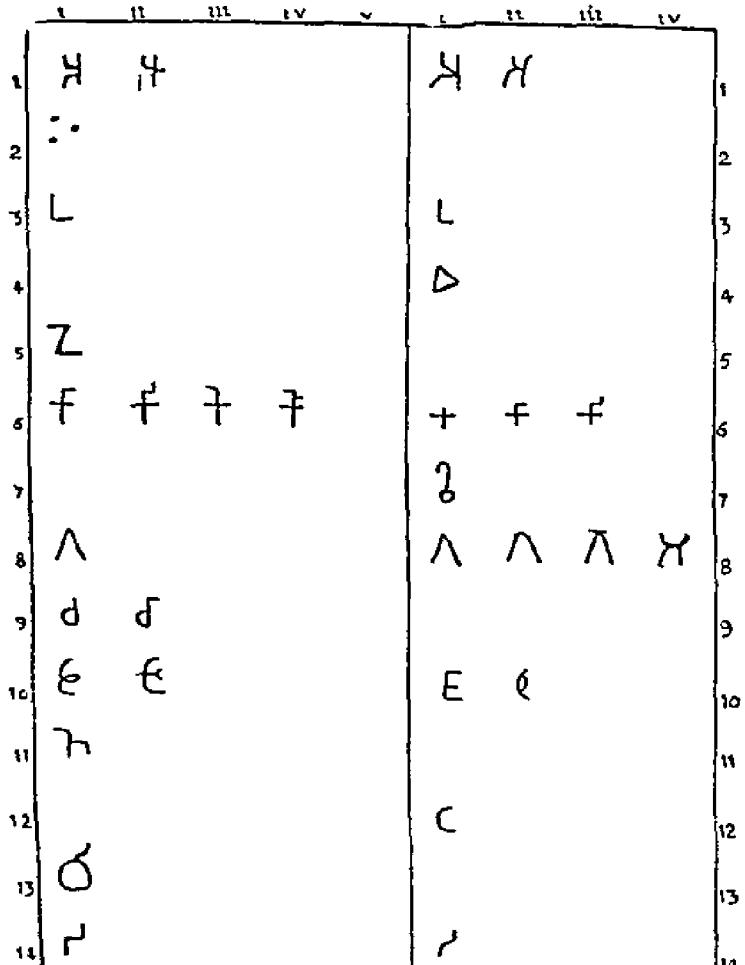

15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
i ii iii iv i ii iii iv v vi i ii iii iv i ii iii iv v vi i ii iii iv v vi

PLATE I

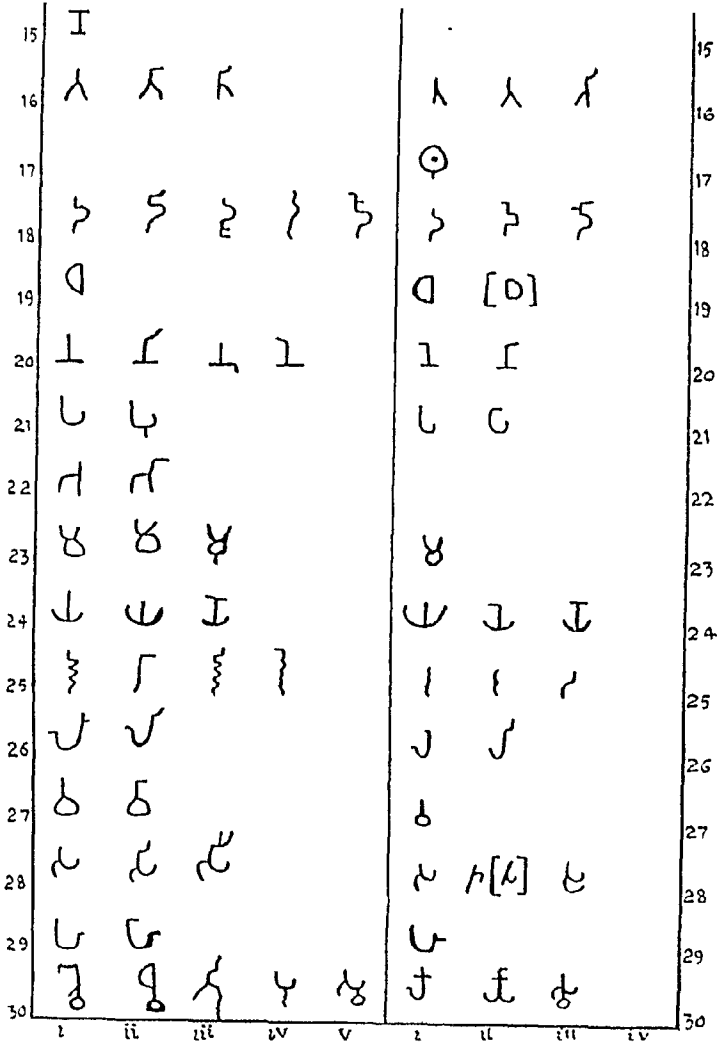
KEY

	I NAGARJUNI CAVE				II MAHASTAN						III SOHGAURA				IV PIPRAHVA						V RAMGARH CAVES						
	i	ii	iii	iv	i	ii	iii	iv	v	vi	i	ii	iii	iv	i	ii	iii	iv	v	vi	i	ii	iii	iv	v	vi	
1	a	ā			a						a										a	a					1
2															i												2
3					e	e					e										e						3
4	ka	ku			ka	ke	ko				ka	ka	ko		ka	ki	ki				ka	ka	ku				4
5					khi																khe						5
6	go				ga	gi	gi	gam			ga				ga	gi					ga						6
7											gha																7
8	cham										cha	chu															8
9											chhr																9
10	ji	ji																									10
11	the				tha						tha																11
12	da				do	da																					12
13	te	te			t	ti	te	te			ti	i	to		ta	ti	te				ta	ta	ti	ti	te	tam	13

15	de	de	de	di	da	di			da	da	da		da						da	di	di	du	de		15
16					dhā								dha	dha											16
17	na				ni	nam			na	ni	ni	no	na	na	ni	n'	ne	nam	na	nu	nū				17
18	pi				pa	pi	pu						pu						pa	pa					18
19													bu						ba						19
20	bha	bhā	bhi						bha				bha	bha	bha				bhā	bhū					20
21	ma				mā				ma	ma	me	mo							ma	ma	ma				21
22	ya	yā			ya	yā	yi		ya	yā	yi		ya	yim					ya	yā	yi	ye	yo	yam	22
23																			rā	ru					23
24	li				la	la	le		la	la	li		la	la	li				la	le	lu	lam			24
25	va	vi			va	va			va	va	ve		va						va	vā	vam				25
26																			śi	śu	śe				26
27	si	sū			sa	sa	si	su	su	sam	sa	sa	si	sa	sa	sa	sa	su	sa	sā	sam				27
28	hi				hi						ha	hi							ha	hā					28
29											sym-bol	sym-bol							sphi	kyi					29
	I	II	III	IV	I	II	III	IV	V	VI	I	II	III	IV	I	II	III	IV	V	VI	I	II	III	IV	V	VI				

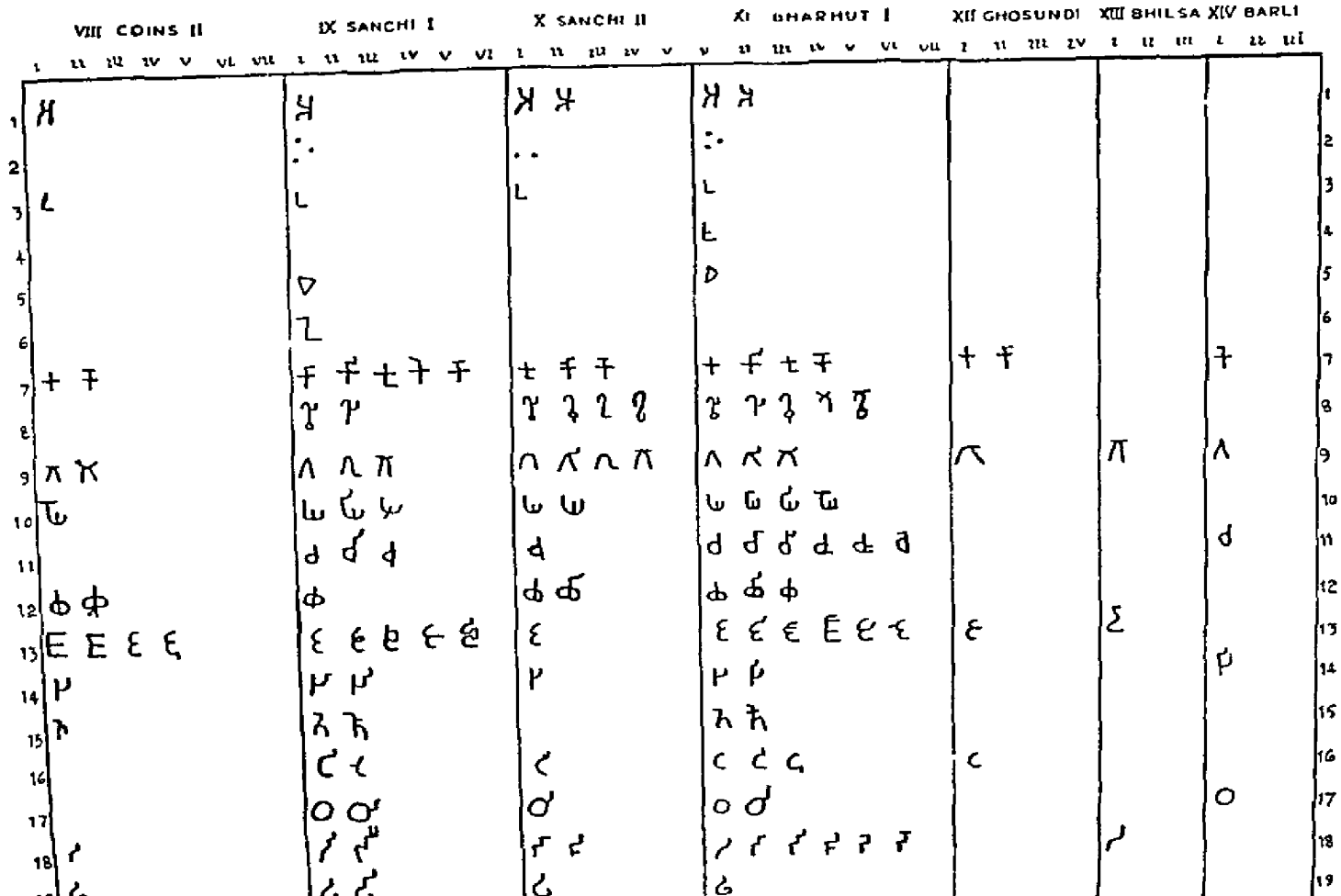


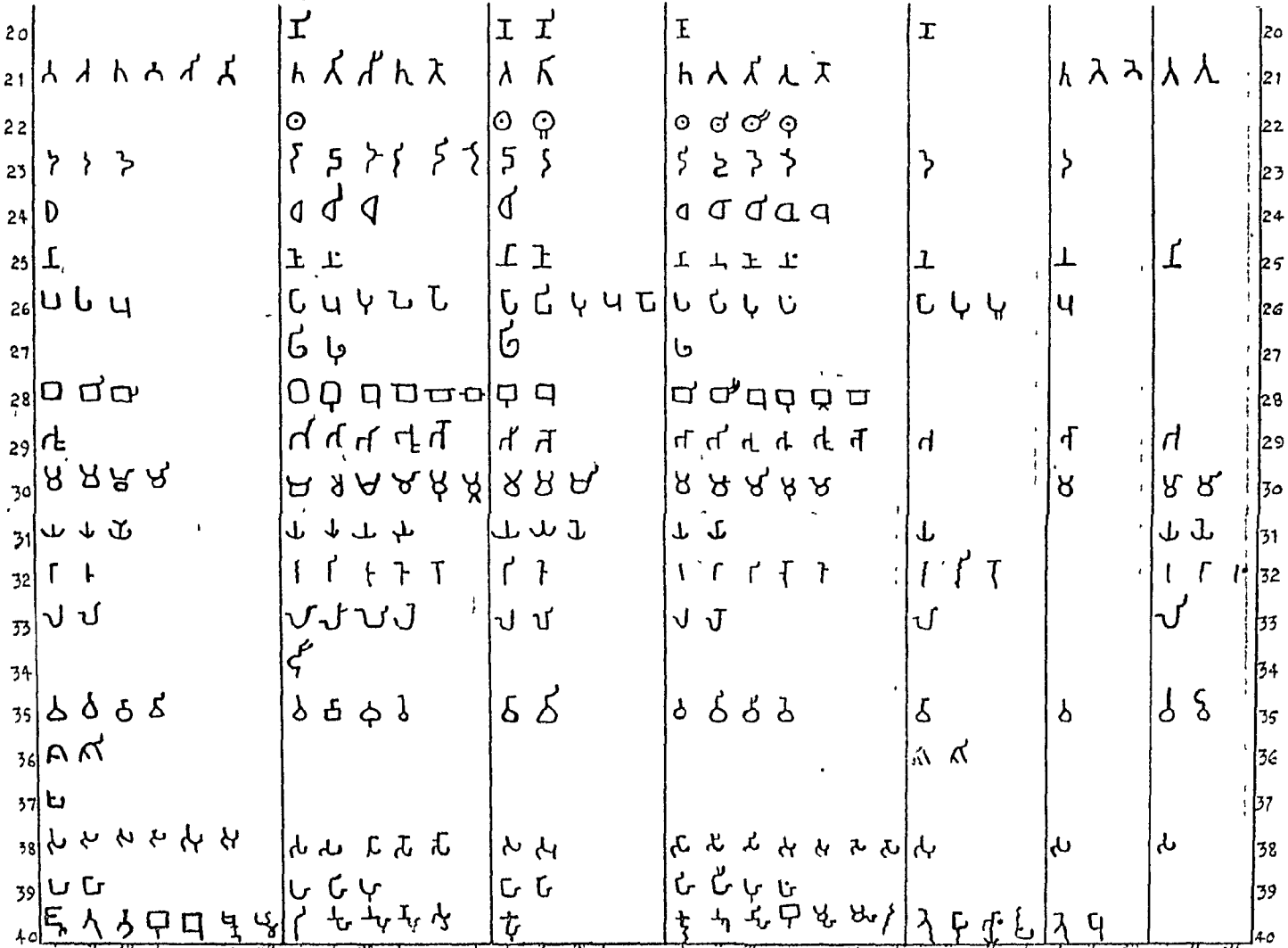
	i	ii	iii	iv	v	i	ii	iii	iv
1	a	ā				a	a		
2	i								
3	u					u			
4						e			
5	o								
6	kā	ki	ke	ko		ka	kā	ki	
7						kha			
8	ga					ga	ga	go	go
9	cha	chā							
10	ja	jā				jo	ja		
11	ña								
12						to			
13	thi								
14	da					do			



	i	ii	iii	iv	v	i	ii	iii	iv
15	ṇa								
16	ta	tā	ti			ta	ta	ti	
17						thu			
18	da	di	dī	de	do	da	de	do	
19	dha					dha	[dha		
20	na	ni	nu	ne		ne	nā		
21	pa	pu				pa	pā		
22	bha	bhā							
23	ma	ma	mu			ma			
24	ya	ya	yo			ya	ye	yo	
25	ra	rā	ri	re		ra	ra	ri	
26	la	li				le	li		
27	va	vā				va			
28	sa	si	sī			sa	sa	sa	
29	ha	hā				ha			
30	khkha	dhva	tri	pra	sva	kla	kya	sva	

PLATE III


VIII COINS II
IX SANCHI I
X SANCHI II
XI BHARHUT I
XII GHOSUNDI
XIII BHILSA
XIV BARLI



	VIII COINS II							IX SANCHI I						X SANCHI II					XI BHARHUT I							XII GHOSUNDI				XIII BHILSA			XIV BARLI			
	i	ii	iii	iv	v	vi	vii	i	ii	iii	iv	v	vi	i	ii	iii	iv	v	i	ii	iii	iv	v	vi	vii	i	ii	iii	iv	i	ii	iii	i	ii	iii	
1	a							a						a	ā				a	a																1
2								i						i					i	i																2
3	u							u						u					u																	3
4																			ū																	4
5								e											e																	5
6								o																												6
7	ka	ko						kā	ki	ku	ke	ko		ki	ko	ko			ka	ki	ki	ku	ko			ka	kā							ke		7
8								khi	khi					khi	khu	khu	kha		khi	khi	khi	khu	kho	kho												8
9	go	go						ga	gu	go				ga	gi	gu	go		ga	gi	go					gā				go				ga		9
10	gho							gha	ghi	ghu				gha	gho				gha	ghā	ghi	gho														10
11								cha	chi	chu				chu					cha	chā	chi	chu	chū	che										cha		11
12	chha	chū						chhu						chha	chhi				chha	chhi	chhu	chhe														12
13	jo	ja	ja	ju				ja	ja	ja	jā	ji		ja					ja	jā	jā	ja	ji	je		ja				je						13
14	jha							jha	jhi					jha					jha	jhi														jhi		14
15	ña							ña	ñā					ña	ño																					15
16								ṭi	ṭe					ṭi					ṭa	ṭi	ṭu					ṭo										16
17								ṭha	ṭhi					ṭhi					ṭha	ṭhi														ṭha		17
18	da							di	di					dā	du				da	da	di	du	de	do						da							18
19	ḍha							dha	dhi					dha					dha																	19

21	ta ta ta ta ti ti	ta ti ti tu to	ta tā	ta ta ti iu to		ta te te	ta tu	21
22		tha	tha thū	tha thi thī thu				22
23	da da de	dā dā dā di di de	dā dā	di du de de	de	da		23
24	dha	dha dhi dhu	dhi	dha dhā dhi dhu dhu				24
25	nā	no nam	nā no	nā nu no nam	ne	no	ni	25
26	pa pa pu	pā pu pu pe po	pa pi pu pu po	pa pi pu pam	pā pu pū	pu		26
27		phi phu	phi	pha				27
28	ba bi bi	ba bu bu be bo bo	bu bu	bi bī bu bu bū bo				28
29	bhū	bha bhā bhī bhū bho	bhi bho	bhā bhi bhu bhu bhū bho	bho	bhā	bho	29
30	ma ma mā mi	ma ma ma mā mu mū	ma ma mi	ma mā mi mu mo		ma	mā mi	30
31	ya ya yo	ya ya ya yu	ya ya ye	ya ya	ya		ya ye	31
32	rā ru	ra ri rā ro ro	ri ro	ra rā ri ro ro	rā ri ro		ra rā ram	32
33	la la	lā li li le	la li	la lo	lā		li	33
34		lī						34
35	va va vā vi	va vā vu ve	vā vi	va vi vi ve	vā	va	va vī(?)	35
36	śa śi				śa śi			36
37	sha							37
38	sa sa sa sa su su	sa sa sā sā so so	sa su	sā si si su su se so	su	so	sa	38
39	hu hā	ha hi hu	hā hi	hi hī hu ham				39
40	ña tra tra bra bra shṇu hma	dva rha nhu ṇhu sva	nhu	kra nkha nhi bra mha mha ôra	tre prā bhya rsha	tre prā		40
	i ii iii iv v vi vii	i ii iii iv v vi	i iii iv v vi	i ii iii iv v vi vii	i ii iii iv	i ii iii	i ii iii	

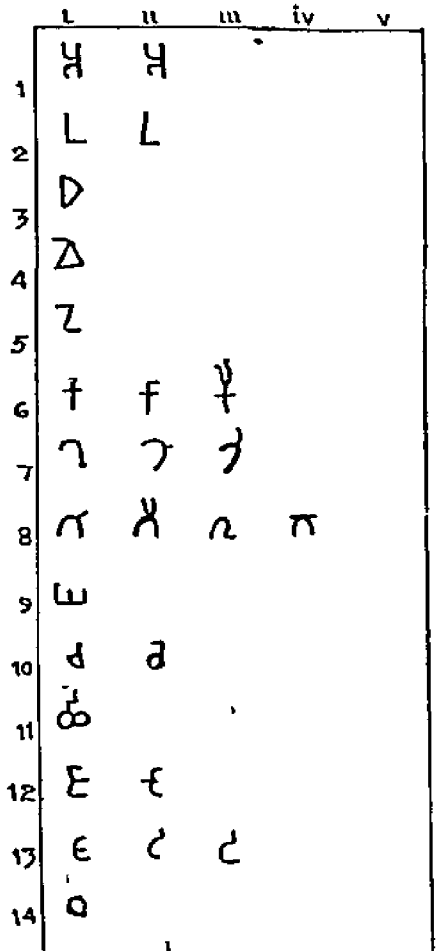
KEY

PLATE IV

	XV COINS III			XVI SĀÑCHĪ III			XVII MATHURĀ KSHATRAPAS							XVIII MATHURA PRE KOSHĀNA						XIX PABHOSĀ				XX BHĀRHUT II		XXI AYODHYĀ		XXII BODHGAYĀ		
	i	ii	iii	i	ii	iii	i	ii	iii	iv	v	vi	vii	i	ii	iii	iv	v	vi	i	ii	iii	iv	i	ii	i	ii	i	ii	
1	a			a	ā		ā	ā						a	a	ā	ā			a	a			ā				a	a	1
2	i			i			i	im						i														um	um	2
3				u			u							u	u					ū				u						3
4														e																4
5	o													o	o															5
6	ku			ka			ko							ka	ka	kā				kā	kā			kā		ko	kau	ku		6
7	kha			kha			khi							khā	khā													khi		7
8	gā	gi	gu	ga	gi		gu	go	go					gī						ga	go			gī	go			gi		8
9	gha	gho	gho		ghā		gho	gho							gha	gho												gha		9
10				cha	chu		cha	cho						cha	cha									cha				che		10
11				chha	chhe		chhi	chhī												chha				chhi				chhe		11
12	ja	ju					ji	jī						ja	jā									ju	je	ji		jā	ji	12
13														jha	jhā															13
14	ño			ño			·													ño				ño						14
15							to							tā	to													ta		15
16				thi			tha																							16
17	dā			da			da	dā	dā																					17
18																				dha										18
19				na	nu		ni	na	ne					na						na	nī			na		,,				19
20	ta			ta	ta		ta	ti	to					ta	ti	ti	tī	to	tah	ti	tu	te		te	to	ta	teh	ti		20

21	thi			tha			thi							tha	thu										21
22	da	dā	de	da	dā	di	da	di	de	do	do			di	di	dī			da	da		da		da	dā	22
23	dha	dha		dha			dha							dha	dhū				dhi			dha		dhi	dhī	23
24	na	ni	nu	na	no	naṁ	na	na	nā	ni				na	na	nā	nī		na	na		naṁ		na	naḥ	naṁ	24
25	pa	pā	pu	pa	pu	po	pa	pā	pi	pu	po			pa	paṁ	pī	pū	pau	pā	pu	pu	pū	pu	pau	pi	pu	pe	pā	pu	25
26	pha						pha																		pha					26
27	ba			ba	bu	bu	bo							bu	bū	bo			ba							bo			27
28	bha	bhu	bhū	bhu	bho		bha	bha	bha					bha	bha	bha			bhā			bhū							28
29	ma	ma	mi	mu	mū	me	ma	mā	mi	mo	mo			mi	mo	mi			mā	mi		ma		me		mi	mo		29
30	ya			ya	ya		ya	yā	ye					ye	ya	ye	ye		yā	yā	yā			yā		yā	ye		30
31	ra	rā	ru	ra	ri	ro	ra	ri	re	ra				ra	rā	rā			rā	rā	ri	rī	ra	ri	ra		raṁ		31
32	la			la	lī		la	le						la	lī				la	lī	le		lā		la				32
33							la																						33
34	va	va	vi	va	vā		va	va	va	va	vāḥ	va	vi	va	va	va	vā	vi	vī	vai	vaṁ		vā	vi	va		vā	vā	34
35	śi						śi	śo	śai					śi	śī	śī	śau			śo					śi				35
36	sha						she	shā												shā					sha				36
37	sa	sā		sa	si		sa	sa	su	si	se			sa	se	si				sa	sā		su	si	sa		sa		37
38	ha	ha	hā	ha	hi		ha	hi	he					ha	hā	hā	haṁ			ha	hi								38
39	jña	jña	tra	tra			kshe	gra	jva	tra	ṭṭā	tsa	dva	kshe	chchh	tra	dra	dre	pra	jñā	ttrā	ttra	tre			jñā	tre	dvi	tra	dvā	39
40	tra	dra	dhru				pri	prī	brā	rcha	rta	rdha	rya	prā	rga	rva	rsha	sthi	sthā	sya	sya					rma	lgu	śva			40
41	pta	śva	shru				vṛi	śchi	shkā	shṭhā	sta	sthā	sva	sya	sya	syā	ta	sa	sa							shṭha	shya	sya			41
42							2	9	70		sva	sya	hm	(a) 1 (b) 2	9	10	90	200	PUNCTUATION MARK												42
	i	ii	iii	i	ii	iii	i	ii	iii	iv	v	vi	vii	i	ii	iii	iv	v	vi	i	ii	iii	iv	i	ii	i	ii	iii	iv	ii	

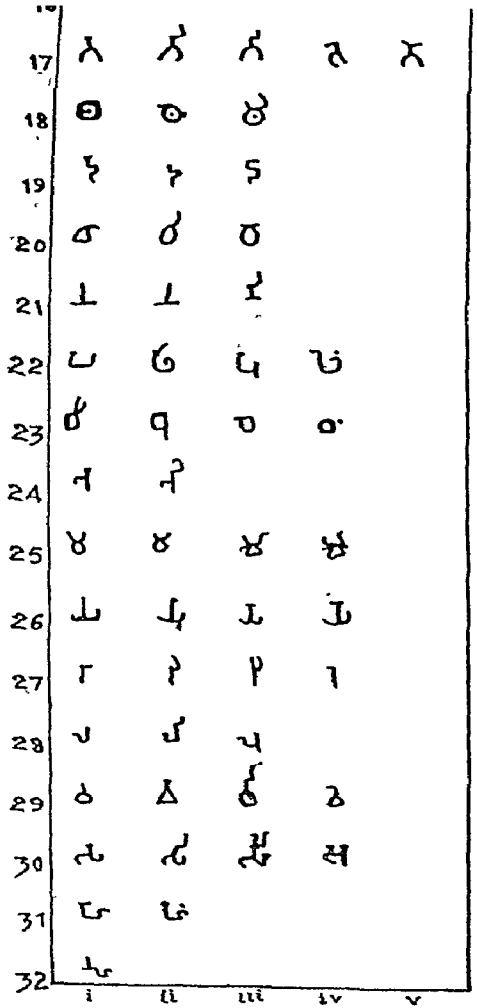
HĀTHĪGUMPHĀ INSCRIPTION



KEY

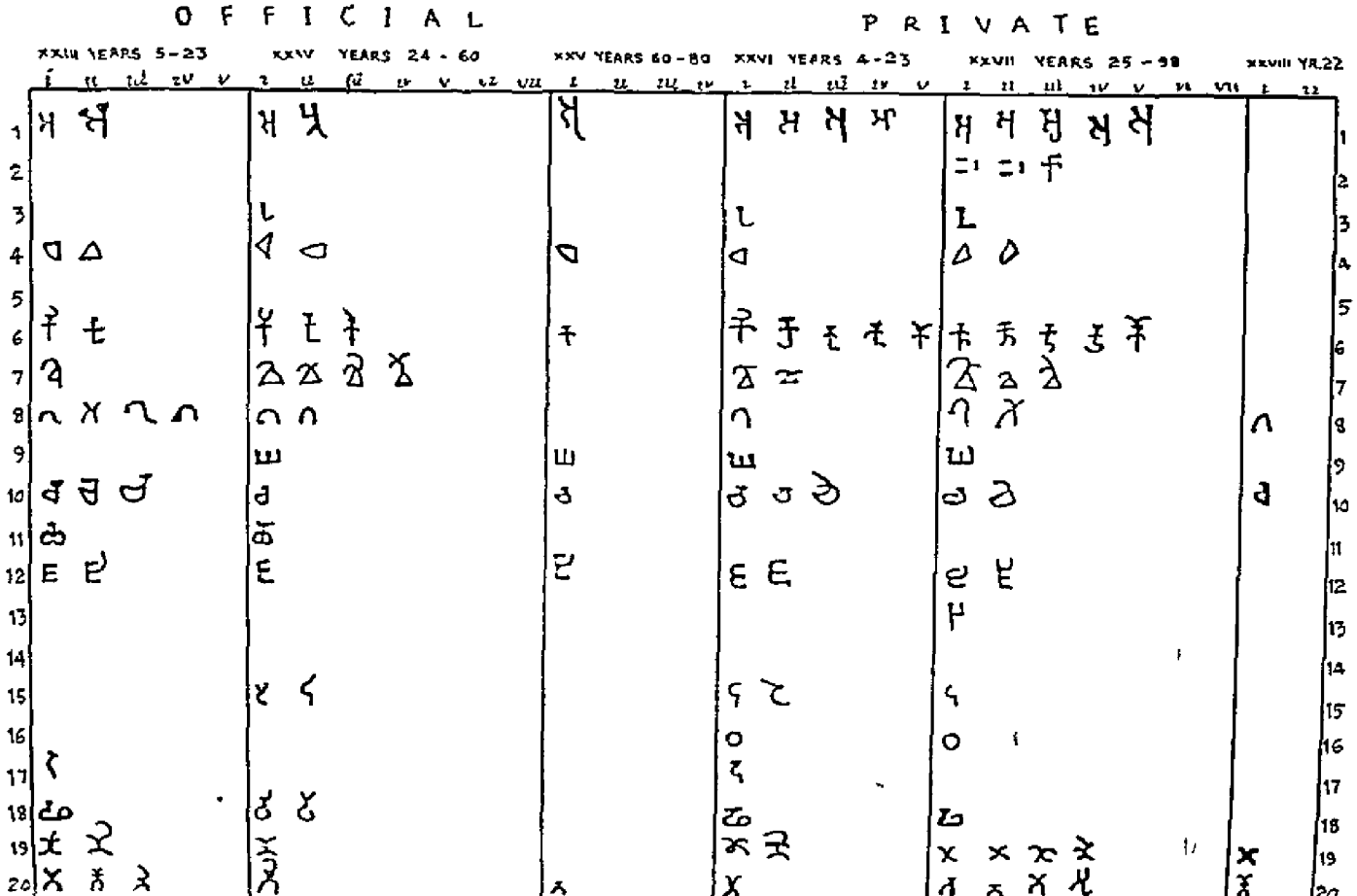
PLATE IVA

	i	ii	iii	iv	v
1	a	a			
2	u	u			
3	e				
4	ai				
5	o				
6	ka	ka	ki		
7	kha	khā	khi		
8	gā	gī	gu	go	
9	gha				
10	cha	che			
11	chhi				
12	ja	je			
13	tā	ti	ti		
14	tha				



					16
ta	ti	ti	te	to	17
tha	the	thī			18
da	da	dā			19
dhā	dhi	dho			20
na	na	ni			21
þa	þā	þu	þaṁ		22
bī	bu	be	baṁ		23
bha	bhi				24
ma	ma	mo	mo		25
ya	yu	yo	yo		26
rā	ri	rī	re		27
la	li	lu			28
va	va	vi	ve		29
sa	si	sī	su		30
hā	haṁ				31
nha					32
i	ii	iii	iv	v	

WESTERN STYLE (MATHURA AND SANCHI REGION)



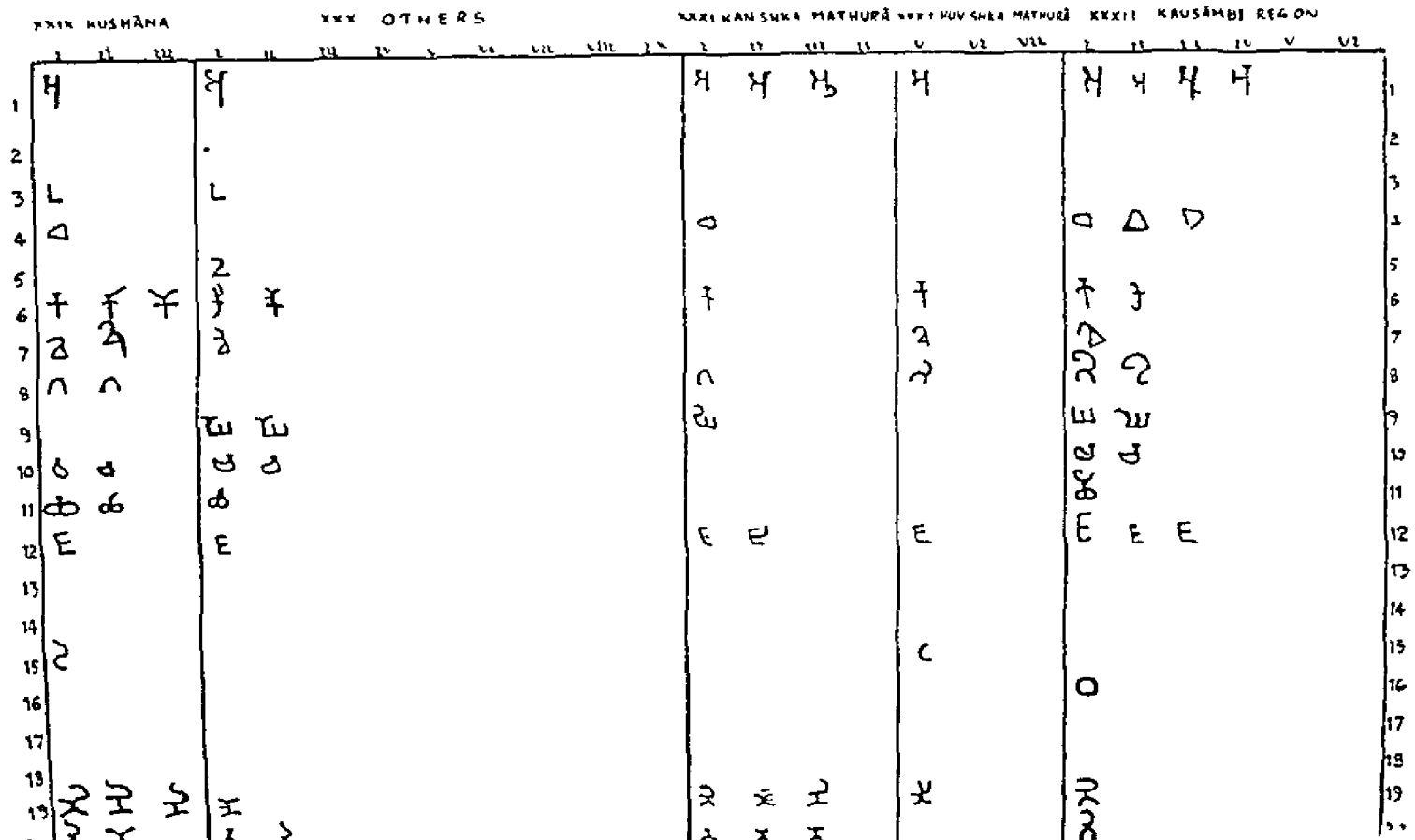
KEY

WESTERN STYLE (MATHURA AND SANCHI REGION)

	OFFICIAL															PRIVATE															
	XXIII YEARS 5-23					XXIV YEARS 24-60							XXV YEARS 60-80				XXVI YEARS 4-22					XXVII YEARS 25-98							XXVIII YR.22		
	i	ii	iii	iv	v	i	ii	iii	iv	v	vi	vii	i	ii	iii	iv	i	ii	iii	iv	v	i	ii	iii	iv	v	vi	vii	i	ii	
1	a	a				a	a						a				a	a	a	ā		a	a	a	a	a					1
2																						i	i	ī							2
3						u											u					u									3
4	e	e				e	e						e				e					e	e								4
5																															5
6	ki	ku				ka	ku	ke					ka				ki	ku	ku	ku	ko	ku	ku	ku	ku	ko					6
7	khu					kha	khā	khi	kho								khā	khā				khā	kha	khe							7
8	ga	go	gu	ge		ga	ga										ga					gu	go						ga		8
9						gha							gha				gha					gha									9
10	cha	che	cha			cha							cha				cha	cha	che			cha	che						cha		10
11	chhe					chhā																									11
12	ja	jā				ja							jā				ja	ju				jā	jī								12
13																						jha									13
14																															14
15						ti	tu										tu	te				tu									15
16																	tha					tha									16
17	da																da														17
18	dhe					dhi	dhī										dho					dha									18
19	nā	ni				ne											na	ni				na	na	na	na				na		19
20	ta	ta	ti										ta				ta					ta	ta	to	tī				ta		20

| | | |

EASTERN STYLE



| | | |

KEY

EASTERN STYLE

PLATE VI

	XXIX KUSHĀNA			XXX OTHERS									XXXI KANISHKA MATHURĀ				XXXII HUVISHKA-MATHURĀ			XXXIII KAUŚĀMBĪ REGION						
	i	ii	iii	i	ii	iii	iv	v	vi	vii	viii	ix	i	ii	iii	iv	i	ii	iii	i	ii	iii	iv	v	vi	
1	am			ā									a	ā	ā		a			a	a	ā	a			1
2				i	i	i																				2
3	u			u																						3
4	e												e							e	e	e				4
5				o																						5
6	ka	ka	ko	kī	kau								ka				ka			ka	ku					6
7	kha	khu		khe													khu			kha						7
8	ga	ga											ga				gi			gi	ga					8
9				ghe	ghe								ghi							gha	ghe					9
10	cha	cham		cha	cha															cha	cha					10
11	chha	chhā		chha																chhī						11
12	ja			ja									ja	jā			ja			ja	ja	ja				12
13																										13
14																										14
15	ṭi																ṭa									15
16																				tha						16
17																										17
18																										18
19	ni	n.	ni	ne									ni	nāṁ	ni		ni			ni						19
20	ṭi	ṭo		ṭa	ṭi								ṭa	ṭa	ṭo					ṭi						20

| | | |