There are about one thousand and five hundred rock-cut caves in Western India and nearly three-hundred inscriptions are therein. These inscriptions are mostly from the Buddhist cave temples of Maharashtra. They are from the caves of Ajanta, Bedse, Bhaja, Ellora, Ghatotkacha, Junnar, Kanheri, Karla, Karad, Kol, Kondane, Kuda, Mahad, Nasik, Nanaghat, Pitalkhora and Visnou etc. These splendid rock-cut monuments are strung along the ghats leading to the neighbourhood of Bombay up to the tableland of Deccan. Geographically, the location of these rock-cut monuments may be categorized into two major groups viz, rock-cut monuments on the coastal strips and rock-cut monuments on the tableland.

There are two main reasons for having so many excellent rock-cut architectures in Maharashtra. Firstly, geographical and geological factors. Secondly, it was due to the ancient important trade routes, ports and market towns.

The rocks of this region are mostly volcanic origin lavas. The south western parts belong to a complex formation of igneous and highly metamorphosed rocks and the eastern marginal belt is underlain by the Archaeans and the Dharwars (Deshpande 1971:14). In fact, the Deccan trap basalt with alternation of hard and soft layers was quite suitable for rock-cut architectures.
The important ancient ports on western coast viz., Broach, Sopara, Kalyan and Chaula were quite famous to the foreign traders since the dawn of Christian era. The discovery of the nature of the monsoon in the Arabian sea by Hippalus was one of the reasons for popularising these ports to the western trades. Hippalus was the first pilot who had discovered the nature of monsoon in Arabian sea and inquired about the situation of seas and ports. Since the discovery of Hippalus the western sea-board became famous to the traders of western countries (Chattopadhyaya 1980:1; Motichandra 1977: 117). The Periplus tells that there was flourishing maritime trade from the famous ports of Broach, Kalyan and Sopara. These ports were connected by internal land routes with the cities of Paithan, Tegara and Ujjain (Mirashi 1981: 176). There are three main passes on the western ghats leading to the interior inland. Dehejia (1972: 12 - 30) has shown these three main passes viz., Bhorghat, Telghat and Sherghat. The Sherghat and Telghat were connected with Sopara and Nasik; Nanaghat were linked with Kalyan and Junnar; Bhorghat were connected from Kalyan to Karla and then to Ter. The above caves are scattered around these passes and located near or around the ancient internal trade routes, and ports. (see map no.2).

There were munificent gifts for these caves, particularly, from those rich Buddhist businessmen who were making huge profit from trade. The donations and gifts of those rich traders for excavating cave temples are evidenced by their inscriptions found at Karla, Kanheri, Kuda, Junnar
Map showing the Location of the Caves and Inscriptions

MAP No. 1.
and Nasik. Besides the donations of the merchants there were royal patronages.

**Location of the inscriptions and caves:**

**Ajanta:**

Ajanta caves (lat. 20°32′N : long. 74°45′E) are in Aurangabad district about fifty-six km. from Jalgaon Railway station about six km. away from Pandharpur village. There are altogether thirty excavated caves including the unfinished one. About thirty painted and nine incised inscriptions are therein.

**Bedsa:**

Bedsa caves (lat. 19°43′N : long. 73°32′E) are in Poona district. The cave site is eight km. away from the Kamset Railway station of Bombay-Poona line. At Bedsa there is a Chaitya griha; a monastery; two independent single cells; an unfinished cave; a few cisterns with recess; a tiny apsidal roofless excavation with a stupa and an unfinished circular cell with stupa. There are three inscriptions at Bedsa.

**Bhaja:**

Bhaja caves (lat. 18°12′N : long. 73°29′E) are in Poona district, one and half km. away to the south-west of Malvali Railway station of Bombay-Poona line. Two Maratha forts Visapur and Lohagad are on the adjoining hill tops. There are twenty-two caves at Bhaja and eight inscriptions are therein. Besides these eight inscriptions, one inscription is on the wooden railing of the chaitya hall.
Junnar:

Junnar caves (lat. 19°12' N : long. 73°53' E) are in Poona district. Junnar is a small taluq headquarter. There are altogether 324 rock-cut excavations at Junnar according to the counting of Jadhav (1980: 84). Thirty-four inscriptions are reported in the Report of Archaeological Survey of Western India (Burges's and Bhagwanlal Indraji 1976: 41-55).

Kanheri:

Kanheri (lat. 19°12' N : long. 72°54' E) is in Thana district of Bombay. The Kanheri caves are located ten km. away to the south-east of Borivile Railway station. Nearly sixty inscriptions are discovered from Kanheri.

Karla:

Karla caves (lat. 18°46' N : long. 73°32' E) are in Poona district, about five km. away to the north of Malvali Railway station of Bombay - Poona line. There are twelve rock-cut caves, a few cisterns and a big chaitya hall. More then twenty inscriptions are in the caves of Karla.

Karad:

Karad caves (lat. 17°17' N : long. 74°13' E) are in Satara district. There are about sixty-four caves at Karad, five of them are chaityas and the rest are Viharas (Dhavalikar 1984: 29).

Kuda:

Kuda caves (lat. 18°55' N : long. 73°35' E) are in Mangaon taluq of Raigad district. There are twenty-six caves at Kuda, and
thirty-one inscriptions are numbered by Burgess and Bhagwanlal Indraji (1976:4-21).

Kondane:

Kondane caves (lat. 18° 51' N; long. 73° 23' E) are in Kolaba district. The caves of Kondane situated about five km. to the north-west of Thakurwadi station of Bombay-Poona line. Only one inscription is reported by Burgess (1975: 83) from the caves of Kondane.

Nasik:

Nasik caves (lat. 19° 59' N; long. 73° 47' E) are in Nasik district. The cave site is located about eight km. away from the proper Nasik town. There are altogether twenty-four caves, and twenty-seven inscriptions are numbered by Burgess (1975: 98-114).

Nanaghat:

Nanaghat (lat. 19° 13' N; long. 73° 52' E) is in Poona district, a pass which leads from Konkan to the ancient town of Junnar. Nanaghat is about forty km. distance from Junnar. There are about eleven inscriptions in the caves of Nanaghat.

Pitalkhora:

Pitalkhora caves (lat. 20° 20' N; long. 75° 00' E) are in Aurangabad district. The caves are situated about eleven km. away from the Bhamarwadi, on the Aurangabad Chalisgaon Road. Seven inscriptions are numbered by Burgess and Bhagwanlal Indraji (1976:31-41) from the caves of Pitalkhora.

The inscriptions from the above rock-cut monuments of
Western India bear many important historical evidences of different ruling dynasties of Western India. The remarkable facts about the kings, their thoughts, beliefs, social and cultural conditions of the days past are seen alive by studying these cave inscriptions. Besides the royal records there are also many records of private individuals. However, a detailed palaeographical study of these cave inscriptions is yet to be done. Most of these inscriptions are in Prakrit and the script is in Brāhmī.

The aim of the present work is a detailed analytical and systematic palaeographical study of these cave inscriptions of Western India. This palaeographical study covers the period of about eight centuries, i.e. from third century B.C. to the beginning of sixth century A.D. Before dealing with palaeographical study of these inscriptions, a brief historical introduction about the ruling dynasties of Western India is necessary.

Western India During the time of Asoka:

Scholars have a very faint idea about the ruling dynasty of pre-Satavahana period (Mirashi 1981:1). However, during the time of Asoka (c.273-32 B.C.) some parts of Western India were governed by the feudatories of Asoka known as Rathikas, Bhojas and Pitinikas (Mirashi 1981 :1). It is mentioned in the fifth rock-edict of Asoka which were discovered from Girnār, Shāhbāzgarhi, Mānehrā and Dhauli (Hultzsch 1969 :9, 56, 75, 87). In this edict, there are references about sending of Dhamma Mahāmātras to the Rathikas, Pitinikas and Aparānta.

In the thirteenth rock - edict found at Shāhbāzgarhi,
Mānsehrā and Kālsi, Bhojas as associated with the Pitinikas. From these inscriptions we know that these feudatories were ruling the Western boundaries of As'oka. In the inscription nos. 1, 9, 17, 19 and 23 of Kuda and inscription no. 3 of Bedsa, Mahābhoja occurs several times. Aparānta is identified with the northern Konkan (Bhandarkar 1975:20). The Pitinikas are identified with the natives of Paithan (Sircar, 1973:44). According to Gupta (1973:44) the Bhojas were the ancestors of the Mahārathis and the Mahābhojas of the Sātavāhana period. The Khāravela inscription of Hathigumpha (Orissa) mentions the defeat of Raṭhikas and Mahābhojas by king Kharavela of Orissa. Gupta (1973:44) suggests that Bhojas were occupying the ancient Vidarbha.

From the above references it can be observed that during the time of As'oka the northern Konkan, Vidarbha and Paithan were under the Mauryas. But nothing is known so far regarding the names of the rulers and events of their reigns. (Mirashi 1981:1).

The Sātavāhanas.

The first known historical ruling dynasty of Maharashtra was the Sātavāhanas (Mirashi 1981:1). The chronology of the early Sātavāhana rulers is a matter of dispute among the scholars. The initial period of the dynasty is assigned to different dates by different scholars. There are two groups of scholars following the dates differently. The first group of scholars placed the initial period of the dynasty around 271 B.C. The first group of scholars are Yazdani (1960:90), Gopalchari and Sastri (1957:295). The second group of scholars placed the beginning of the dynasty
around .30 B.C. They are Majumdar and Sircar (1960:195), Raychaudhury (1932:278) and Spink (1958:100). Both the groups supported their arguments in the most convincing way, however, it is difficult to ascertain the exact date of the beginning of the Sātavāhana dynasty. The obvious reason of arising such controversy in Sātavāhana chronology is due to the lack of proper historical documents of early Sātavāhana rulers.

The Purānic literatures viz, Vāyu, Brahmāṇḍa, Bhāgavata, Viṣṇu and Matsya provide the dynastic list of the Sātavāhana kings as well as the period of their reigns. It is difficult to consider the Purāṇas as the primary source for fixing the date. Among the Purāṇas there are many contradictory and confusing statements. The total number of Sātavāhana rulers is given as thirty in Vāyu, Brahmāṇḍa, Bhāgavata and Viṣṇu Purāṇas, but mention the names of only 17, 18, 19, 22, 23, 24 or 28 of them (Pargiter 1913:36). The Matsya Purāṇa gives the number of rulers as nineteen, but actually mentions thirty kings (Pargiter 1913:36). In the same manner there are different statements among the Purāṇas about the total period of Sātavāhana rulers. The Matsya Purāṇa gives the total period as 460 years; the Brahmāṇḍa, Viṣṇu and Bhāgavata give the total period as 456 years; while Vāyu Purāṇa gives the total period as 411 years (Pargiter 1913:37). Due to the contradictory statements of these Purāṇas, it is difficult to fix the initial date of Sātavāhanas. If the statement of Vāyu Purāṇa about the extermination of the last Kaśva ruler Susaram by Simuka is accepted, the rise of
Sātavāhana dynasty is to be placed in the last quarter of the first century B.C. (Mirashi 1981:3).

So far palaeographical dating is concerned, the beginning of Sātavāhana dynasty would be different from the above datings. On the basis of Nasik cave inscription no. 1 of the time of Sātavāhana ruler Kṛishṇa, the beginning of Sātavāhana dynasty may be placed around 1st quarter of first century B.C. Kṛishṇa was the successor of Simuka the founder of Sātavāhana dynasty (Mirashi 1981:18). Palaeographically, the inscription no. 1 of Nasik may be dated around 50-40 B.C. (see chapter II. Palaeographical analysis and the chronology of the undated and controversial dates of inscriptions). If the palaeographical dating is accepted, then the rise of Sātavāhana dynasty would be around first quarter of the first century B.C.

Extent of Sātavāhana Empire:

In the Nasik cave inscription of the nineteen regnal year of Vāsiṣṭhiputra Puṣumavi, the names of the territories, which were included in the empire of Gautamiputra Satakarni are mentioned. The territories mentioned in the inscription are Asika, Asaka, Mulaka, Surāstra, Kukura, Aparānta, Anupa, Vidarbha, Ākara and Avanti. The following mountains are also included, they are; Vindhya, Rikshavat, Pārīgātra, Sahya, Krishnagiri, Macha, Siritana, Malaya, Mahendra, Seṭagiri and Chakora (Burgess, 1975:109).

From the inscription of Vāsiṣṭhiputra of the nineteen regnal year it can be said that, in the north, Sātavāhana power was extended upto Kathiawad, south-east Rajputana,
Eastern and western Malwa, modern Indore and Nanded district of Madhya Pradesh; to the south Northern Konkan, Khandesh, Ahmednagar district, the region near Pratisthan and Vidarbha (Mirashi 1981:32). In the same inscription the extermination of Kshaharata family by Gautamiputra Satakarni is mentioned. The Junagarh inscription of I'lahakshatrapa Rudradaman records that, Satakarni the lord of Deccan was twice defeated by the Mahakshatrapa, however, Rudradaman did not exterminate Satakarni as they were near relatives. Mirashi (1981:36) identified this Satakarni mentioned in the Junagarh inscription with Vasishtiputra Satakarni. From the same inscription we know that Rudradaman had annexed the territories viz, Anarta, Saurashtra, Anupa, Sindhu Sauvira and Akaravanti which were under the dominion of the Sātavāhanas. The Sātavāhana kingdom continued for one generation after Sri Yajña Satakarni (c. 171-202 A.D.). By the middle of third century A.D. after the downfall of Pulumavi iv (c. 250 A.D.) several small kingdoms appear to have risen in the different provinces which have previously been under Pulumavi iv. About the middle of third century A.D. Sātavāhana power came to an end (Mirashi 1963:17).

The Kshatrapa Kshaharātas of the House of Nahapāna.

No inscription of Nahapāna himself has been found so far. But the inscription of his prime minister Ayama has been found at Junnar. The inscriptions of his son-in-law Ushavadata are also found in the caves of Karla and Nasik.
Nahapāna was ruling over the northern Maharashatra, Konkan, Gujarat, Malwa and central and southern Rajputana (Mirashi 1981 : 100). From the inscriptions of Ayama and Ushavadata it may be inferred that, the inscriptions were written during the reign of Nahapāna. The years 41, 42, 45 and 46 mention in the inscriptions are assigned by Sircar (1942 : 160, 164, 166) to A.D. 119, 120, 123 and 124 respectively. From these inscriptions it can be said that Nahapāna was the contemporary to the Sātavāhana king Gautamiputra Satakarni (c. 106-130 A.D.). According to Mirashi (1981 : 64) the capital of Nahapana was probably at Junnar.

The Kshatrapa Kshaharātas played a very important role on developing a new writing style in western India. The characters of later Sātavāhana rulers show the pen-style of Kshatrapa Kshaharātas. The influence of Kshaharāta pen-style can be seen in the Nasik inscriptions of Vāsisṭhiputra Pulumavi and Yajña Satakarni. The similarities of the styles and the scriptal traditions are shown in the chart of chapter III. The complex clusters (compound aksharas) which have been used in the Nasik inscriptions of Ushavadata suggest that the Kshaharāpas were advanced in writing. The square and geometrical form of letters which are the common features of Kshatrapas pen-style can be traced in many inscriptions of Western India of second and third century A.D. They are discussed in chapter no. III.
Abhira Is'varasena

After the downfall of the Sātavāhanas, Abhira Is'varasena, the son of Sivadatta established himself in Western Maharashtra. It is evidenced by the Nasik cave inscription of Is'varasena which had been written in his ninth regnal year. According to Mirashi (1981: 53) the successor of Is'varasena spread their power to North-Konkan, Gujarat and the Anupa country in central India. The letter style of Isvarasena inscription is different from the letter styles of Sātavāhanas and Kshatrapa Kshaharātas. However, traces of Kshaharata pen-style can be noticed in some particular letters of Isvarasena inscriptions (see chapter III). Palaeographical analysis of Isvarasena shows that the inscription was written somewhere in the middle of third century A. D. The palaeography of the inscription is discussed in chapter III.

Vākāṭakas:

The Vākāṭakas was one of the most glorious dynasty of Deccan. According to Mirashi (1963: 1) the empire of Vākāṭakas was extended upto Malwa and Gujarat to the north; upto the Bay of Bengal to the east; to the west upto Arabian sea and to the south upto the Tungabhadra. Jayaswal (1933: 67) opines that, the dynastic name Vākāṭaka was derived from Vākāṭa or vakaṭa and identified
this vakata, the supposed home land of Vākāṭakas, with Bagat
a village in the northern most part of the former Orchha
state, six miles east of Chiragaon in the district of Jhaṇsi.
Hence he (Jayaswal) believed that the original home land of
Vākāṭakas was somewhere in central India. According to
Majumdar (1958 : 259) the original home land of Vākāṭakas was
situated in Madhya Pradesh (c.p.) the region where most of
their epigraphic records have come to light. Mirashi 1963
: 11-16) has critically analysed the different sources and
put foreword the argument that the original home of the
Vākāṭakas was in south India. The period of Vākāṭakas dynasty
is given by Mirashi (1963 : 3) as 250-505 A.D.

The Vākāṭakas were the great patrons of art and
literature. The magnificent vihāras and chaityas of Ajanta
were the donations of the ministers and feudataries of the
Vākāṭakas. These splendid vihāras and chaityas of Ajanta are
still getting admiration of the visitors. The contribution
of the Vākāṭakas in the field of Art and architecture is
immense. The peculiar box-headed script of the Vākāṭakas is
one of the important script for palaeographical study.

**Diffusion of writing style:**

From the above historical introduction it can be
observed that different historical dynasties were ruling over
the different regions of Western India. During the period
from first century B.C. to the beginning of sixth century A.D.
the following dynasties were ruling over different regions of
Western India. They are; the Satavahanas; the Kshatrapa Kshaharatas; the Abhiras and the Vakatakas. During their reigns Buddhism was flourishing in Western India and got liberal royal patronages. The royal patronages are evidenced by the excellent rock-cut monuments and the inscription written therein.

As writing is a part of culture, every stage of development of writing is very important. Diffusion of writing style from one region to another can be traced by studying different inscriptions of different regions. For instance, the pen-style of Kshatrapa Kshaharatas and Satavahanas of Nasik can be traced back in the inscriptions of Mathura Kshatrapas and Mathura Kushānas (Dani 1963:95). The pen-style of southern India can be seen in the Junagarh rock inscription of Skandagupta (Fleet, 1970:57). The box-headed script of the Vakatakas can be observed in the Eran inscription of Samudragupta; in the Udayagiri inscription of Chandragupta II and in the copper plate inscription of Sarbhapura and Tivara king of Kosala (Bühler, 1959:83). The similarities of the letters of these different regions are shown in chart no. 2. The following discussion will show that, the writing styles were diffused from one region to another due to the cultural contacts.

The important palaeographical records of Western Indian caves may be categorized into five major groups viz; the early Satavahana records, ii) the western Kshatrapa (Nahapāna) records, iii) the later Satavahana records, ar
the Abhira record. Besides these royal records there are other private individual records. All the inscriptions of these different historical dynasties have some cultural significance.

It is a well accepted fact among the palaeographers that the style of Brāhmī script passed from one stage to another. The newly developed or introduced pen-style slowly overlapped the old traditional style which was currently in use. This was a common phenomenon occurring in the history of writing. Towards the beginning of second century A.D., a striking change in the scriptal style can be observed. The most distinguished changes can be seen in the inscriptions of Ushavadata, Gautamiputra, Vāsishthiputra Pułumāvi and Yajña Sātakarni. The best example of such development are the Nasik cave inscriptions. Except few letters like, ṭa, ḍha, tha, dha and ṭba, all other letters developed into new style.

The angular letters like a, ḍha ta and ga become rounded. Equalization and tendency of equalizing the verticals of the letters are observed. Letters which are having round bases like gha, pa, la, va and ha become triangular. The shape of the letters emphasized mostly in squarishness and geometrical forms. The squarishness and geometrical forms are less emphasized in the case of Sātavāhana inscriptions (Detailed analysis are discussed in chapter III). The most interesting and remarkable point to be discussed is the scriptal difference between the kṣaharata inscriptions of Karla and kṣaharata inscriptions of Nasik.
The analytical study of the Nasik inscriptions shows that the Kshatrapa pen-style influenced the Sātavāhanas. The resemblances in styles between the two are shown in chart no.1.

In investigating the reason of having a new pen-style in the inscription of Kshatrapa Kshaharātas and Sātavāhanas the following questions arise.

I. Whether it was due to the cultural intercommunication?

II. From where the new style was borrowed?

III. What was the source?

IV. Why the Sātavāhanas adopted the new style?

Two factors may be considered regarding the adoption of new style. Firstly, the writing style is beautiful and bold and more accessible in chiselling. Secondly, there were contacts with the Śaka Kshatrapa writers.

Dani (1963: 95) believed that inscriptions of Kshatrapa Kshaharātas from Nasik were having some connection with the early group of inscriptions of Kushāṇa from Mathura. He believed that the Yavanas and Śakas were present in the second half of first century A. D. in the Deccan, where they made a solid contribution in bringing a new style of writing from the north. The view of Dani can be examined by comparing the Nasik cave inscriptions of Kshatrapa Kshaharātas and Sātavāhanas with the Mathura inscriptions of Kushāṇa. A comparative study shows that the following letters resemble each other.
The similar letters are: e, cha, ja, ta, dha, pa, ma, sa
and ha. They are shown in the chart given below:

The next group of inscriptions which are significant for
cultural study is the inscriptions of the Vākāṭakas, one
of the most interesting and peculiar scripts of Deccan.
It is known as the box-headed script of the Vākāṭakas.
On the top of the letters small square boxes are provided. The boxes differed according to the difference of materials. In the case of painted inscriptions the box is solid; in the incised inscriptions the box is hollow. The difference due to the difference of materials are discussed in chapter IV. The box-headed variety can be seen in the inscriptions of the following regions.

1. In the Vākāṭaka inscriptions of Deccan the box-headed script is used most commonly. The earliest box-headed inscription of the Vākāṭaka available so-far is the Dūṭe inscription of Rudrasena (330 A.D.). The box-headed script was continued in Deccan from the time of Rudrasena till the beginning of sixth century A.D.

2. The box headed script appears in the Eran inscription of Samudragupta (c.357-376 A.D.)

3. The box-headed script appears in the Udaygiri inscription of Chandragupta II (c. 401 A.D.)

4. The box-headed script also appears in the copper plate inscriptions of Sarabhapura and Tivara king of Kosala (Bühler, 1959:83).

The box-headed script of these five different
regions are shown in the chart given below:

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<th>Samudragupta Insc. from Ēraṅ</th>
<th>Chandragupta II Insc. from Udaygiri</th>
<th>Dēoṭak Insc. of Rudrasena</th>
<th>Ajanta Insc. of Varāhadēva</th>
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The above scriptal traditions and styles show that there was a diffusion of writing styles. The similar scriptal traditions
and styles can be observed in the following inscriptions of Group A & B.

Similarities in Kshatrapa style.

**Group A.**

1. The inscriptions of Mathura Kshatrapas.
2. The inscriptions of Mathura Kushanas.
3. The Nasik inscriptions of Kshatrapa Kshaharātas.
4. The Nasik inscription of Sātavāhanas.

Similarities in box-headed script.

**Group B.**

1. Samudragupta inscription from Eran.
2. Chandragupta II’s inscription from Udaygiri.
3. Ajanta cave inscription of Varāhadēva.
4. Copper plate inscription of Tivara the king of Kosala.