CHAPTER - 1

THE PALAEOGRAPHY
OF
ORISSAN INSCRIPTIONS
FROM CIRCA
3RD CENTURY B.C.
TO
CIRCA 3RD CENTURY A.D.
Although numerous inscriptions are available for the study of Orissa history and culture from the time of Mātharas (circa 4th - 5th century A.D) to the end of Hindu rule in Orissa of about A.D. 1568, the paucity of inscriptions pertaining to the period from the beginnings of the dated history to the 4th century A.D. has raised problems. Only a few lithic records of this period is available to the Palaeographist to show the gradual development of each alphabet used in the records. The earliest epigraphic records of Orissa are dated back to the time of Aśoka. In Orissa two sets of Aśokan Brāhmī edicts have so far been discovered one at Dhauli on the southern bank of the river Daya near Bhubaneswar and the other at Jaugada on the bank of the river Rishikulya in Ganjam district. Most of the edicts including those at Dhauli and Jaugada are written in Aśokan Brāhmī script. The letters are cut but chiselling only the lines drawn by the writer and due to the use of the longish piece of chalk and charcoal the lines are drawn in uniform width but the hand of the writer is clearly discernible in the long wave lines at Jaugada like that at Girnar. The letters used in these two rock edicts do not show the regional variations because such type of scripts were found in the far-flung areas of North, South, East and Western India. Each letter is definitely formed and no cursive writing in the way of continuous drawn out lines is noticeable. The free movement of hand resulting the round forms and the letters are not having any serif on the top. In its later period of Orissan Palaeography is greatly marked with the development of provincial Brāhmī script in about the 1st century B.C. like the other regions of India. On the basis of technical achievement and introduction of new writing tool the archaic form

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1. The Mauryan Brāhmī has been found in the Aśokan rock and pillar edict. The script used in the Aśokan inscriptions is called Aśokan Brāhmī alphabet.
optionally met with in the Hāthisgumphā inscriptions of Khāravela at Udayagiri hill located on the western direction of Bhubaneshwar. Most probably due to the use of a broad or edged pen the letters used in the Minor rock inscriptions at Udayagiri hill became more angularised in comparison to the Hāthisgumphā inscription of Khāravela. Although no inscription is available in Orissa for the period from 1st century A.D. to the 3rd century A.D. but during the period a number of inscriptions are available and the scripts are termed as Kushāṇa Brāhmi, Śātavāhana Brāhmi and Ikshvāku Brāhmi. However the existence of Bhadrak stone inscription of Gana which is now preserved in the Epigraphy Gallery of Orissa State Museum, Bhubaneswar shows the later development script in the earlier period. Here the vertical by their tapering thickness received a new shape which looks like the addition

2. There are two Hāthisgumphā on the hill of Udayagiri one is chotā (small) Hāthisgumphā and the other is Bada (big) Hāthisgumphā in which the inscription of Khāravela is found engraved.

3. A number of other Brāhmi inscriptions have survived in the Udayagiri hill of the Mahchapuri cave upper and lower storey, snake cave, Haridas cave, Tiger cave and Jambeśvara cave. All these records are called minor inscriptions due to the short nature in comparison to that of the Hāthisgumphā and the inscriptions are consisted of one or two lines.


5. The script which is found in a majority of the Kushāṇa inscriptions is christened to be Kushāṇa Brāhmi and chronologically it is datable to century 1st A.D. to 150 A.D.

6. The script that is found in the records of the Śātavāhanas is christened as Śātavāhana Brāhmi. This character was in practice from circa 100 B.C. to circa 200 A.D.

7. In the lower KrishnaValley a regional variant of Brāhmi is found in the records of the Ikshvāku kings and the script is called as Ikshvāku Brāhmi. This script was more in use from C. 200 A.D. to C. 300 A.D.

of a horizontal bar and thick triangular head mark on the top. In some instances the letters are characterised by the Pre-Gupta\textsuperscript{9} and Gupta Brāhmī\textsuperscript{10} alphabet. So on the basis of these few lithic records mentioned above the Palaeographic development of each alphabet is discussed below.

\textbf{A:} The initial \textit{a} in the epigraphic records of Orissa belongs to the 3rd century B. C. as represented in Dhauli\textsuperscript{11} and Jaugada\textsuperscript{12} rock edicts is noticed in nearly two or more forms. In the first category the letter consists of a vertical stroke with two arms moving away from the central point, either as straight or as curvilinear strokes.(Plate No I, Serial No. 1). In the second variety the curves on the left are replaced by straight lines but some times the vertical bar is bent to touch the apex of the angle and a short bar is drawn to join the apex with the vertical line (Plate No I, Serial No. 1). These forms are closely related with the script used in the Allahbad Kosam Pillar edict\textsuperscript{13} and Girnar rock edict\textsuperscript{14} of Aśoka. Another formula is also used in some other instances at Dhauli and Jaugāḍa edicts. In this formula the vertical line is drawn first and then one of the left stroke is brought to the middle of the vertical either straight or cursive and from this meeting point another stroke goes out either straight or cursively (Plate No. I, Serial No. 1, 2). But in very few cases the alphabet consists of two curves forming the left side of

\textsuperscript{9} The script use in the inscriptions prior to Gupta Brāhmī is known as pre-Gupta Brāhmī alphabet.
\textsuperscript{10} The script use in the Gupta inscriptions on 4th century A.D. onwards is known as Gupta Brāhmī alphabet.
\textsuperscript{11} \textit{CII}, Vol. I, pp. 84 - 97 ff and plates.
\textsuperscript{14} \textit{Ibid}, Vol. I, pp. 1 - 26 ff and plates.
the letter meeting the vertical line separately and they do not touch each other at the same point (Plate No. I, Serial No. 1, 2). The exact type is seen in the 5th rock edict of Dhauli in line seven on the word *anesu* and 14th rock edict in line 3 on the word *asamati*. All these varieties show that they originated as the two curves coming closer to each other and finally their own arm merges with the other. Its later development is represented in the Hāthigumpha Inscription of Khāravela¹⁵ (Plate No. I, Serial No. 3). Here the letter is deeply carved and is almost big in size in comparison to Dhauli and Jaugaḍa rock edicts. The nature of the left strokes become straight and touches the right vertical line. Sometimes these two curves do not touch each other at the same point but they touch the vertical line on the right as seen in the word *anugaha* and *ahata* (Plate No. I, Serial No. 3). The later development of the initial letter is seen in the inscriptions of the Kushāṇas, Kshatrapas and Śatavāhanas of the 2nd century A.D. In all these records the lower arm develops greater curve but in the Ikshvākus records, the vertical line is lengthened considerably where as the curve line become a definite curl. Its later palaeographical development can not be shown due to the scarcity of epigraphic evidences in the different parts of Orissa where as it s form appear in the single lithic record belonging to the 3rd - 4th centuries A.D. In the Bhadrak stone inscription of Gaṇa two different varieties of *a* are seen. In the first type the lower and upper curves of the letter are separated and joined in the left limb of the vertical line (Plate No. IV, Serial No. 2). In this type the triangular head mark is used as the serif of the letter and that is placed on the upper curve and the lower arm develops greater. In its next variety the upper stroke marks an angle before meeting with the vertical line which according to the scholar as

angular type (Plate No. IV, Serial No. 2). This variety is almost same as in the Badva, Nandas and Barnala Yupa inscriptions assigned to the Period between A.D. 282 to A.D. 335.

Ā: Ā is the lengthened form of a in the Aśokan Brāhmī alphabet of Orissa. Generally it is formed by adding of a horizontal bar to the right of the vertical where the left strokes meet at each other (Plate No. I, Serial No. 1, 2). In some cases the horizontal bar is added to the top or near the top of the right vertical line as seen in the Girnar rock edict, Gujarra minor rock edict and Rajula Mandagiri Minor rock inscription of Aśoka. But the secondary form is completely absent in both the Dhauli and Jaugada rock edicts at Bhubaneswar while the peculiarity is noticed in the First separate rock edict of Dhauli in line - 11 on the word ālasiyena where the bar starts from the lower curve line and the curve lines do not touch each other (Plate No. I, Serial No. 1). In the later epigraphic records as seen in the Hāthigumpha inscription, three different varieties are obtained. In the first of its kind the addition of horizontal stroke starts on the two curves and they touch each other at a point outside the vertical line (Plate No. 1, Serial No. 3). This variety is seen in line 13 on the word āharapayati. In the second variety the added horizontal stroke on the right side of the vertical line clearly shows as it is born out of the lower curve line (Plate No. 1, Serial No. 3). In the third variety the horizontal bar is added in the middle of the right vertical line. The last two varieties show that as they derived from the Aśokan Brāhmī alphabet. In all

20. EI, Vol. XXXI, p. 27 ff and plates.
these cases the origin of added horizontal line is only differed and most probably it became easier to add the vertical line on the middle of the right vertical line instead of on the top. The chiselling hand continued into right from the left curve stroke. Here the writer did not want to use his pen on the top. Its later developed form is not seen as from the study of scanty Orissan epigraphic records. But in the Saranath inscriptions of Āsvaghosha of the year 40, 2nd century A.D. the dash is at the lower end of the vertical line. In the Kondavali Pillar inscription of Chandasiri and Andhau inscription of Rudradamana, it is almost in the centre at the starting point of the arms. The curved dash starts a little below the point where the arm starts in the 3rd Century A.D. inscriptions.

**I:** In the Dhauli and Jaugadā rock edicts *i* is simply three dots arranged triangle wise. In most cases the apex of the triangle is on the right (Plate No.I, Serial No. 1) Some times it is on the top (Plate No..I, Serial No. 1) but very rarely at the bottom. The placement of apex on different direction is possibly of engravers desire to placed on the right position of what will be easier for him. The same formula is also adopted in the Hāthigumpha inscription of Khāravela of the 1st century B.C. as particularly seen in line 13 on the word *idha* (Plate No.I Serial No.3). Its later development is not came to our vision in the extant inscriptions of Orissa upto the 3rd century A.D.

**U:** *U* consists of two lines, a long vertical and a short horizontal forming in right angle and resembling the Roman Capital Letter 'L'. Sometimes the vertical line is bended at the bottom as seen in the second rock edit of Dhauli on the word *Udupānāne* (Plate No.I,

serial No.1) In the other sense it may be formed with two straight lines meeting at the right angle and very rarely at an acute angle and that is opened on the right. (Plate No. I, serial No. 1) Here the vertical line is usually longer than the horizontal. However it does not undergo any changes in the Hāṭhigumpha record of Khāravela as seen in Usava and Upapidayati in line 1 and Utarapatha in line 11 (Plate No. 1, Serial No. 3). This letter is not found in the later epigraphic records of about the 3rd century A.D. But in the context of Indian palaeography of about the 2nd and the 3rd century B.C.E., the angle of the previous form tends slightly to become acute and a serif is developed at the top.

E: The alphabet e found in the Dhauli (Plate No. I, Serial No. 1) and Jaugada (Plate No. I, Serial No. 2) edict is shaped like a triangle. It is formed when three dots are joined by lines. It just looks in the form as it is developed out from the letter i. In most cases the apex of the triangle is on the right while in some other instances it is at the top. The earlier formula is used in the Hāṭhigumpha record though in some cases an angle is on the right (Plate No. I, Serial No. 3). We can not show its later development due to the scarcity of epigraphic evidences in any circumstances.

AI: This letter is conspicuous by its absence in the Aśokan edicts at Dhauli and Jaugada. It is rarely found in the Hāṭhigumpha record which is formed by adding of a horizontal bar in the left part of the initial letter e is seen in line 1 on the word airena (Plate No. I, Serial No. 3). Afterwards its occurrence is not found on the Orissan epigraphic records of about the 3rd century A.D.

O: Generally in the Aśokan Brāhmī alphabet o is formed by adding of a horizontal bar to the top left of the letter u. The letter is made in one action slanting from the top left end and consequently the middle vertical line is inclined. It's reverse formula is adopted in
the Dhauli (Plate No. I, Serial No. 1) and Jaugada (Plate No. I, Serial No. 2) edicts. Both these varieties are deeply incised on the Hāthigumpha inscription of Khāravela belong to 1st century B.C. which is used in line - 6 on the word oghatita (Plate No.I, serial No.3). It is not applied in the later records of Orissa upto the 3rd century A.D.

**AU:** The letter *au* is absent in the earliest Orissan records of the Aśokan rock edicts and the Hāthigumpha inscription nor to be seen in the Bhadrak stone inscriptions of Gana of about the 3rd - 4th centuries A.D.

**K:** The first consonant of the Aśokan Brāhmī alphabet *k* as seen in Orissa consists of a simple cross bar (Plate No. I, Serial No. 1, 2) which is almost same in other Aśokan Brāhmī alphabet of Northern India. However the vertical line becomes lengthened greater than the horizontal stroke in the Hāthigumpha inscription of Khāravela (Plate No.I, serial No.3) and other Minor rock inscriptions at Udayagiri hill - which is exactly same to that used in chakasa of the Nanaghat inscription of queen Nayanikā about the 1st century B.C. - 1st century A.D. It's later form is thickened and the cross stroke slightly curves as represented in the Bhadrak stone inscription of Gana (Plate No.IV, serial No.2) and it is resembled with the Junagada rock inscription of Rudradamana. The letter had developed to a looped variety beyond the 3rd century A.D.

**KH:** Generally *kh* resembles a fish hook upside down, with the addition of a dot or not at the end of the longer arm. These two forms are almost seen in the Dhauli and Jaugada rock edicts (Plate No. I, Serial No. 1, 2). Here one point comes to our mind is that the circular loop on the base is particularly seen in the Separate edict

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Kh with a dot is found in the 10th rock edict of Dhauli in line 4 on the word Khudakena which is confined to the north Indian inscriptions of the contemporary period. In the later phase of Orissan palaeography three different forms of Kh are obtained. The first two varieties are same with the Hāthigumpha script as seen in line 2 on the word lekha and in line 17 on the word Khāravela (Plate No. I, Serial No. 3). In the last variety Kh is without any appendage as found in line 5 on the word nikhita. The first formula of Hāthigumpha variety is found in the Minor rock inscription at Sarpagumpha in line 1 on the word akhadamsa (Plate No. III Serial No. 1). In the period of the 2nd century A.D. the hook develops into a large triangle at its lower part where as in the Sātavāhana script the hook is more developed like a query without the dot below as represented in the Ikshvāku inscriptions of the 3rd century A.D. But this is not used in the existing later records of Orissa up to the 3rd century A.D.

G: G in the Dhauli and Jaugāda rock edicts is represented by two straight lines meeting at an acute angle which is opened downwards (Plate No. I, Serial No. 1, 2). The form looks like the inverted Roman capital letter “V”. Though this formula is used in the Hāthigumpha record but the sides of the letter are slightly curved as seen in line 5 on the word nagarim (Plate No. I Serial No. 3). Another form is found in line 11 on the word gadabha and anugaha in line 7 where its back is broad and rounded with equal arms (Plate No. I Serial No. 3). In this variety some changes are noticeable depending upon the extent of divergence of the two limbs of the letter. The top becomes rounded in the Minor rock inscriptions at Udayagiri hill (Plate No. II, Serial No. 1, 2). The later development is marked in the Bhadrak stone inscription of Gaṇa where it is more or less horse shoe shaped (Plate No. IV, Serial No. 2). That form is particularly developed from the later western Kshatrapa and
Śātavāhana records of the 2nd and the 3rd century A.D. but here a small solid triangular base is added to the left arm of the horse shoe.

**GH:** In the Dhauli and Jaugaḍa rock edicts **gh** is composed from the rounded form of *g* turned upside down but its left arm is extended upwards and a vertical stroke is added on the middle (Plate No. I, Serial No. 1, 2). In some instances the bottom is flattened as seen in the First separate rock edict of Dhauli in line 14 on the word *chaghatha* (Plate No. I, Serial No. 1). While in other circumstances it has three prongs but the one to the extreme left being elongated. The epigraphic records of the first century B.C and the first century A.D. show that two different varieties of **gh** are developed. Among the two types the first is on the Mauryan form while in the later form the left curve line is transformed into two right angles (Plate No. I, Serial No. 3) which slightly differs in the Mañçhapuri cave lower storey and that looks like the addition of a upward hook on the Brāhmī alphabet *p* (Plate No. II, Serial No. 2). It is three pronged and the top of the middle and right arm becomes thickened. This thickened part particularly shows the development of serif mark of the top as in the Śātavāhana letters of the 3rd century A.D.

**CH:** We do not notice the change of the form of letter **ch** in the Dhauli and Jaugaḍa rock edicts like that of other Asokan inscriptions found in different parts of India. The letter consists of a vertical straight line to the lower left part of which a semi-circular loop is attached (Plate No. I, Serial No. 1, 2). It looks like the appearance of reversed form of Roman capital letter *P* upside down. This principle also occur in the Hāṭhigumphā record as well as other Minor rock inscriptions at Udayagiri hill (Plate No. I, Serial No. 3). In the later records belonging to the 2nd century A.D., the vertical stroke dwindles into small thick knob towards the right top. Here
the belly of the letter bulges forward to assume the shape of an orange cell. It became more compressed in the inscription of the 3rd century A.D.

**CHH:** Chh is composed from *ch* by adding the semi circle on the right. The appearance of it shows that it is a circle on the bottom and the vertical bar is on the middle of the circle. The vertical bar is raised upwards and separates the whole circle into two equal halves (Plate No. I, Serial No. 1, 2). It may be pointed out that the lower half of the top is divided as an oval or elliptical shape into two equal parts. The Mauryan formula is adopted in the Hāthigumphā record (Plate No. I, Serial No. 3). But in the later period the top end of the letter becomes thickened as represented in the Bhadrak stone inscription of Gaṇa of about the 3rd century A.D.²⁶ Here the letter is dwarfish and the two cells of its oval belly develop into two closely knit spheroids with a central vertical stroke above (Plate No. IV Serial No. 2). This is probably borrowed from the Māgh inscription from Kosam of the 2nd - 3rd centuries A.D. Here the thickened top is closely related with the Śātavāhana script of the 2nd century A.D.

**J:** Two different varieties of *j* are existed in the Aśokan Brāhmaṇ inscriptions as particularly seen in the region of Orissa one at Dhauli and the other at Jaugada. The first is the angular form as seen on the fourteenth rock edict of Dhauli on the word *vijaya* (Plate No. I, Serial No. 1,2). The second form is round in nature which is so common in both these edicts of Aśoka (Plate No. I, Serial No. 1, 2). Besides the Mauryan form adopted in the Hāthigumphā record, other variations are noticed. The transitional form is found where the letter is partially angularized (Plate No. I, Serial No. 1, 2). Inspite of the angularisation of the curves the left end of the letter has not become a straight line. The angularity of

the letter is the special feature of Eastern India inscription as in the word *Kothājāyacha* of the Haridās cave inscription\(^{27}\) (Plate No. III, Serial No. 2). Sometimes it maintains the Roman capital letter “E” with its vertical curved inwards and its lowest arm is bended while the top horizontal stroke slightly slanting upwards. But the spire of the letter in the Bhadrak stone inscription is curved and almost same with the scripts of the earlier period (Plate No. IV, Serial No. 2).

**JH:** In both the Dhauli and Jaugada rock edicts *jh* has only the angular form. It is made by adding an angular hook to the middle of a vertical line to the right and the mouth is opened upwards (Plate No. I, Serial No. 1, 2). Afterwards it is not found anywhere in the epigraphic records of Orissa belonging to the 1st century B.C. It’s later development is not seen in the existing inscription of the region.

**N:** *N* is very rarely used in the epigraphic records of Orissa. It is composed in the form of *jh* upside down with a stroke added to the left top. In the other way it looks like the Roman small letter “h” with the left vertical extended a little to the left. This variety is found in the Dhauli 2nd separate rock edict in line 6 on the word *Patiṅḍa* (Plate No. I, Serial No. 1). This alphabet is found in rare case of the Hāthinigumphā record as seen in line 15 on the word *pañinam* (Plate No. I, Serial No. 3). The lower end of the left vertical is somewhat prolonged in the 2nd century A.D. as represented in the Kushāna, Kshatrapa and Sātavāhana letters where as the vertical line is prolonged and definitely curves to left in the 3rd century A.D.

**T:** *T* is written in one form in the Aśokan Brāhmī alphabet of Dhauli

\(^{27}\) *OHRJ*, Vol. XLIV, No. 1 to 4, pp. 6-16 ff.
and Jaugāḍa rock edicts where it is only a semi circle shaped like the Roman capital letter 'C' (Plate No. I, Serial No. 1, 2). Similarly in the Hāṭhigumpha record it has only one main form of semi circle open to the right. In few instances the angular form cursive drawn by flattening the upper and lower arms as seen in mukūta on line 5 (Plate No. I, Serial No. 3). This formula is resembled with the Gujarra Minor rock inscription, Rupnath Minor rock inscription and Sarnath Minor Pillar inscriptions of Aśoka. The earlier formula has been practised in the later Orissan inscriptions as in the Bhadrak stone inscription of Gaṇa of about the 3rd - 4th centuries A.D. (Plate No. IV, Serial No. 2).

**TH:** In the epigraphic records of Orissa this is the single letter which is still in use without any derivation or deviation. This alphabet is a complete circle in all cases. Though certain changes like triangular head mark on the top or a vertical stroke are found in later inscriptions but it is not relevant here.

**D:** In the earlier Orissan epigraphic records ā is formed by adding a vertical stroke to the top of ṭ but here the semi-circle of ṭ is strengthened and it looks like a step. It is drawn in the downward discendance in angular form (Plate No. I, Serial No. 1, 2).

In the later periods of Orissan epigraphy it looks like the Roman capital letter 'H'. But here the top and bottom half of the arms to the left and right are rubbed out respectively (Plate No. I, Serial No. 3). The style of the letter changed in the Bhadrak stone inscription where the curved lower part straightens itself some what vertically: The type used in the Bhadrak stone inscription is almost

the same with the Allahabad Pillar inscription of Samudragupta. So in this circumstance it may be suggested that \( d \) used in the Bhadrak stone inscription belong to the 4th century A.D. of Gupta Brāhmi character.

**DH:** \( dh \) is formed by adding of a loop on the right to the bottom of \( d \) and it looks like a roundish hook but not completely touch the left curve line. Although the roundish form is very common in the Orissan inscriptions but the angular variety is rarely seen in Delhi - Topra Pillar edict\(^3\) VII of Asoka. The Orissan style is seen in the 4th rock edict of Dhauli in line - 5 on the word \textit{badhite}. It is shaped as an inverted question mark upside down without the dot on the top.

**N:** In the mauryan script \( n \) has two horizontal strokes at the top and bottom connected in the middle by a vertical stroke. But this is absent in both the Dhauli and Jaugada rock-edicts. There is no difference in the form of \( n \) used in the Hāthigumpha record like that of the Mauryan form. In all those cases the horizontal lines at the top and bottom of the letter are perfectly straight and parallel. Its lower horizontal is bent in some instances as in the case of Bharhut, Bodhgaya, Hāthigumpha, Pabhasa and Ayodhyā inscription. Due to the absence of the inscription belong to the 2nd century A.D. its later development does not come to our vision. In Śatavāhana script of the 2nd century A.D., the letter is more or less the same curve a bit giving the letter some what the appearance of ‘X’ composed of two crescents joined back to back. In the 3rd century A.D. of the Bhadrak stone inscription the letter is composed of a small horizontal stroke with both ends rising vertically and curving out in opposite directions like the Northern Gupta script of the 4th century A.D. It is related with the script as found in the

\(^3\) CIL, Vol. I, p. 130 f and plates.
Bijayagadh inscription of Yaudheyas and Vishnūvardhana of 371 A.D. In the process of development the upper stroke plays a predominant role, though the base also bends as in the case of n.

**T:** Three different varieties of t are noticed in the Dhauli and Jaugaḍa rock edicts of Orissa. In the first variety it is formed from an inclined straight line from the middle of which another short slanting stroke is given at an angle on the right (Plate No. I, Serial No. 1, 2). In the second variety it is formed from an inclined straight line from the middle of which another short stroke is given at an angle on the left which is seen in the Separate rock edict of Dhauli in line-8 on the word tata (Plate No.I, Serial No. 1). Besides these two varieties another form is obtained by appendage and angle just below the vertical line (Plate No. I, Serial No. 1, 2). This form looked like the Roman Capital letter 'Y' upside down and that variety is used in many more instances of the Dhauli and Jaugaḍa rock edicts. In the next phase of Orissan epigraphy this letter is used in slight modification of the earlier. In the first case the lower part of the letter is a semi-circle (Plate No. I, Serial No. 3) while in the next type the vertical straight line does not stand exactly on the centre of the lower part of the letter but partly to the left. These two varieties of t used in the Hāthigumpha inscription is related with the Nanaghat inscription of Queen Nayanikā. Though these varieties are borrowed from the Aśokan Brāhmī alphabet but in the Hāthigumpha inscription it became roundish in nature but in some instances the earlier formula is used. In the next phase of its development as represented in the Bhadrak stone inscription of Gaṇa where the triangular serif is developed and it is used on the top of the letter. The lower limbs of the letter is curved to form a horse shoe shape (Plate No. IV, Serial No. 2). The style of the

32. ASWI, Vol. V. pp. 3-8 ff.
letter shows that it is borrowed from the Bijayagadh inscription of the Yaudheyas. It is also closely resembled with the Allahabad Pillar inscription of Samudragupta of the 4th century A.D. So in this circumstances it may be suggested that this letter is used in the Bhadrak stone inscription of Gaṇa belong to the 4th century A.D. and it is influenced by the Gupta Brāhmī alphabet.

TH: In the Aśokan Brāhmī alphabet th does not undergo any change in the different regions of the country. It is simply composed of a perfect circle and a point in the centre (Plate No.I, Serial No. 1, 2). That formula is also adopted in the Hāthigumpha (Plate No. I, Serial No. 3) and other Minor rock inscriptions at Udayagiri hill (Plate No. II, Serial No. 3). Even it adopts the same principle in the Bhadrak stone inscription likely used in the records of other ruling dynasties of India such as Kushāṇa, Kshatrapa and Śātavāhana of the 2nd century A.D.

D: The Aśokan Brāhmī alphabet d as found from the Dhauli and the Jaugraḍa rock edicts has two main varieties. One is the angular form where the other is roundish in nature (Plate No. I, Serial No. 1, 2). The Primary form is made up of a semi-circle, open on the left with the addition of a short vertical stroke at either end. This variety is seen in the 8th rock edict of Dhauli on line 2 on the words dasane and dāne and Jaugraḍa first rock edict in line 1 on the word Piyadasinā. In the second type the semi circle is transformed into angular form as seen in the 1st rock edict of Jaugraḍa in line 1 on the word devānampiyena. Both these varieties are used in the Hāthigumpha record and other Minor Brāhmī inscriptions of the 1st century B.C. - 1st century A.D. In its later phase the Mauryan formula has been used in the Bhadrak stone

34. CIL, Vol. III, pp 6-10 ff and plate.
inscription. But here it has round backed form with its upper and lower appendages are inclined and the mouth is opened to the right by adding of a triangular head mark on the top (Plate No. IV, Serial No. 3). In some other instances the thick horizontal head mark is used as its serif as seen in the Bijayagadh inscription of and Vishnuvardhana of the (Vikram) year 428.

DH: A number of two different varieties of dh are found in the Dhauli and Jaugada rock edicts of Orissa belonging to the 3rd century B.C. In the first form it has a vertical straight line and a semi circle to the right which resembles with the Roman capital letter 'D' (Plate No. I, Serial No. 1). The second category is the reverse form of the first (Plate No. I, Serial No. 1). Though the first formula is used in all the cases of Dhauli rock edict, in two other circumstances the second formula is used. That is particularly seen in the Dhauli second separate rock edict in line 6 on the word ṇaladhayebu and in line 10 on the word dhatubasa respectively. It is also peculiar to note that these two formulas are adopted in a single line such as first type on the word ṇaladhayebu and the second is on the word dhiti. Another important point may be discussed that though second formula already developed in the Aśokan inscription simultaneously along with the first form but here it is used in the last part of the edicts. This fact further points out that the writer aimed to use the other formula which had already developed in the Aśokan inscriptions. Both these varieties were still in use in the epigraphic records of the 1st century B.C. of Orissa (Plate No. I, Serial No. 3). But afterwards the first variety is not used in the Indian epigraphic records and the second variety continued. So it may be presumed that from the very beginning of Aśokan Brāhmi alphabet the writer was very ambitious to change the formula from

35. CII., Vol III, pp. 253-54 f and plate.
first to second. It may be due to the change of the mode of half circle from right to left for easier engraving. Most probably it became easier to draw the half-circle on the left by touching the bottom of the vertical line. The second type then continued in the later records of Orissan inscriptions.

**N:** Nas exhibited in the rock edict of Dhauli and Jaugada is almost in the same style like that of other Aśokan Brāhmī inscriptions discovered in the different parts of India. It is composed of a vertical line which stand as a Pillar in the middle portion of the horizontal base line (Plate No.I, Serial No. 1, 2). The letter looks like the inverted Roman capital letter ‘T’. The same style of writing is used in the Hāthigumphā Inscription of Khāravela (Plate No. 1, Serial No. 3) and other Minor rock inscriptions at Udayagiri hill (Plate No. III, Serial No. 3). Though Orissa is unlucky in preserving the epigraphic materials belonging to the 2nd century A.D., but during that period the horizontal bar is inclined down at both ends. Its later development has occurred in the Bhadrak stone inscription of Gaṇa. Here the letter is composed of a vertical stroke forming a small loop at the base to left which is curled beyond downwards to the right (Plate No. IV, Serial No. 2). This type is closely resembled the letter used in the inscriptions of the Vishṇuvardhana of about the 3rd - 4th centuries A.D.

**P:** In the earlier epigraphic records of Orissa as seen in the Dhauli and Jaugada rock edicts p is composed of a vertical line curved to right at the base (Plate No. I, Serial No. 1, 2). It is shaped like a fish hook drawn to the right. Though this formula is adopted in the Hāthigumphā record of Khāravela but in some cases the single perfect curve on the lower base became angular (Plate No. I, Serial No. 3). It may be pointed out that the lower part consists of two right angles as seen in line 1 on the word kalingādhipati. The
angular formation is more developed in the Minor rock inscription of Udayagiri hill \(^{36}\) (Plate No. III, Serial No. 2). The similar form is found in the Nanaghat inscription of Queen Nayanikā in line 2 on the word *apratihata* and *putradasa* on line 4. Its later development is best seen in the Bhadrak stone inscription of Gaṇa. Here two different varieties have occurred. In the first case it is an open square and the left stroke is thickened on the top (Plate No. IV, Serial No. 2) like the Kushāṇa and Šātavāhana script of the 2nd century A.D. In the second category *P* is of the angular form but the left arm is curved (Plate No. IV, Serial No. 2) which resembled with the Iśvākus letter of the late 3rd century A.D. and also in the Badva, Nandsa and Barnala Yupa inscription of the 3rd - 4th centuries A.D.

**PH:** In very few cases *Ph* is used in the Aśokan Brāhmī inscriptions of Orissa. This letter is seen in the Dhauli first separate rock edict line 4 on the word *tuphe* and in line 14 on the word *mahāhale*. That is also present in the 9th rock edict of Jaugada on the word *apaphale*. Every where the letter is same as *P* and its lower end is curled inwards (Plate No. I, Serial No. 1, 2). Although in the later phase it is not noticed in our existing records but its form is almost the same like that of the earlier forms.

**B:** It is known that two different types of *b* are used in the Dhauli and Jaugada rock edicts. one is the perfect square while the other is rectangular (Plate No. I, Serial No. 1, 2). The square variety is very common in the Aśokan Brāhmī inscription while the second formula is very rarely adopted in the first rock edict of Jaugada in line 2 on the word *bahuka* and also in the 9th rock edict of Dhauli in line 4 on the word *Samanabhabananam*. The square form has been used in the Hāthigumpha Inscription of Khāravela (Plate No. I, Serial No.

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3) and Jambeśvara cave inscription of the 1st century B.C. (Plate 
No, II, Serial No. 2). Though the left arm of the letter is curved 
inward in the 2nd century A.D. but it is not possible to show its 
later development due to the scarcity of epigraphic evidences of 
these periods.

**BH:** Generally it is suggested that bh is formed from the letter d while 
A.H. Dani opined that this is borrowed from b. Firstly it may be 
pointed out that bh composed out of the letter d. Here the letter is 
made only with the addition of a vertical line on the right part 
below the horizontal line of the angular d (Plate No. I, Serial No. 1, 
2). It is also a sign similar to fh but turned upside down.

But as we are poor in the field of epigraphy in the earlier 
period of Orissan history it is not possible to show its chronological 
development. However in the 2nd century A.D. as seen in the 
Kushāṇa and Śaṭavāhana records the letter has double bending 
like a bow having a vertical stroke with thickened end on top of the 
right hump.

**M:** The basic form of m used in the Dhauli and Jaugada edicts is the 
bottom loop or circle and two strokes are added above it. In some 
cases the letter is drawn in a single action from the top stroke with 
one sweep. (Plate No. I, Serial No. 1, 2). It is said that if in this 
action one line bends slightly at the beginning the result comes to 
one form and if the line bends at the end it becomes another form 
(Plate No. I, Serial No. 1, 2). In some other places the upper strokes 
are replaced separately while in the other cases the upper stroke 
originates from the base loop as it looks like the Oriya numeral 4 
(Plate No. I, Serial No. 1, 2). This variety is seen in the 10th rock 
edict of Dhauli in line 1 on the word manate. Besides all these

types $m$ is used in the 6th rock edict at Jaugada makes a different form where it consists of a half elliptical circle with a resemblance of Roman capital letter 'U' with a horizontal line inside. That formula is also adopted in some instances of the epigraphic records of Orissa belonging to the 1st century B.C. (Plate No. I, Serial No. .3). But the primary variation is the principal type of the Hāthigumpha record as in Mahāmeghavāhana and Kumāra of line 1. This variety resembled with $m$ used in line 3 on the word Pachima of the Nanaghat inscription of Queen Nayanikā. In the Hāthigumpha record another form is also obtained where the lower part of the letter is in the perfect triangle and the upper part consists of two curves as in namo in line 1. But in the Bhadrak stone inscription the Mauryan form of the earlier loop base is present (Plate No. IV, Serial No. 2) as seen in the Gunji rock inscription of Kumāravaradatta of the early 3rd century A.D.

\[Y\]: Two basic forms of $y$ are obtained as from the study of Asokan Brāhmī inscriptions of the Dhauli and Jaugada rock edicts of Orissa. Out of them one is the crescentic type and the other is segmented (Plate No. I, Serial No. 1, 2). The first is made by drawing a vertical line in the middle of the arc of a circle as seen in the 1st special rock edict in line 1 on the word tosaliya. The second variety is formed by dividing this into two equal halves. This type is seen in the 14th rock edict of Dhauli on the word tosaliya. Both these varieties are prevalent in the Hāthigumpha and other Minor rock inscriptions at Udayagiri hill (Plate No. I, Serial No. 3). In the 2nd century A.D. as represented in the Śātavāhana record the central stroke is shortened and its top is thickened. In its later development the left limb amply spreads into a curve line and the right one shoots up vertically. Along with these features the curved base of

the letter became flattened and the letter itself becomes tripartite.

**R:** The letter \( r \) used in the Asokan Brāhmī inscriptions has two forms. Among the two varieties one is the straight vertical line while the other is the weavy or serpentine vertical. The straight vertical (Plate No. I, Serial No. 1, 2) is used in the Dhauli and Jaugasāda rock edicts as it is influenced by the North Indian Brāhmī alphabets. Where as the Southern Brāhmī records \( r \) is weavy in form. In the Hāthigumpha inscription of Khāravela \( r \) assumes the Orissan form of straight vertical line (Plate No. I, Serial No. 3) like the Nānaghat inscription of Queen Nayanikā\(^{39}\). In its later phase of the 2nd century A.D. the vertical line is thickened on the top and the lower end curves slightly to left where as in the Ikshvāku record the lower end develops into a curl. In the Bhadrak stone inscription \( r \) is used in the first line on the word Mahārāja where the letter is a vertical stroke with the small serif on the top (Plate No. IV, Serial No. 2). This type of \( r \) is closely related with the North Indian variety of Gupta Brāhmī alphabet of about the 4th century A.D.

**L:** Generally \( l \) is like an upturned left facing beaked hook but some times the added tick mark is on the left, makes a little hook (Plate No. I, Serial No. 1, 2). In the next phase as represented in the Hāthigumpha inscription two different forms are obtained. The first is the older Mauryan form in which the lower part of the letter is perfectly curved and the right arm is higher than the left (Plate No. I, Serial No. 3) e.g. \textit{lekha} in line 2 and \textit{sitala} in line 3. In the second category the roundish nature of the letter has transformed into angular formation as noticed in line 3 on the word \textit{kalingādhipati} (Plate No. I, Serial No. 3). All these varieties are clearly marked in the Minor rock inscription at Udayagiri hill. It's later development is presented in the Bhadrak stone inscription

of Gaṇa. Here two different varieties are obtained. In the first variation the base of the letter is curved and the right vertical line is curved in or out slightly (Plate No. IV, Serial No. 2) like the later western Kshatrapa script of the 2nd and the 3rd century A.D. The second variety is almost same as in the Allahabad Pillar inscription of Samudragupta in the middle of the 4th century A.D.

In this type I is composed of a long right vertical and a deep curve is in the left from the base of a horizontal line along with the addition of top horizontal bar (Plate No. IV, Serial No. 2) on the serif of the letter. Such variety is found in line-2 on the word kula.

V: In the Asokan Brāhmī alphabet of Orissa v is in a perfect circle or loop appended to a vertical line (Plate No. I, Serial No. 1, 2). It has two different forms in the Hāthigumphā Inscription of Khāravela. The first is of the Maurayan form in which the lower part of the letter is circular in form as seen in vavahāra and supavata of line 2 and 4 respectively. Along with the addition of Mauryan style another newer form is obtained where the lower circle has been changed into a definite triangle (Plate No. I, Serial No. 3). That formula is used in line first and second on the words sava and vidhi respectively. In some other instances the circle is lengthened and the letter is drawn in a single action which is more often appears like a loop on the right bottom of the vertical line. But in its later phase of Orissan epigraphy of about the 3rd century A.D. the serif became the usual feature of v. The letter has an equilateral triangular base with horizontal head mark on the top of the vertical line which was used in the earlier epigraphic records.

Ś: As studied from the Asokan inscriptions ś is shaped like an arrow mark which resembles the form of g with an additional stroke appended in its inner side. In the angular variety the inner stroke is attached to the left arm which is almost parallel to the right
arm. But it never appeared in the earlier epigraphic records of Orissa of about the 1st century B.C. After a long gap, s is used in line 1 first on the word Śiri of the Bhadrak stone inscription but the letter is faintly visible and it partly looks like a horse shoe with a stroke across its belly. This form is almost same with the north Indian epigraphic records of the 4th century A.D. and shows as it is influenced by the alphabet of the 4th - 5th centuries A.D.

**SH:** In the Aśokan Brāhmī alphabet the cerebral Sh is a hook with a central curved upward stroke. Both the Palatal and Cerebral are found at Kalsi⁴⁰, Maski⁴¹ and in a conjunct with v at Bairat⁴². However this letter form does not occur in the Dhauli and Jaugada rock edicts as well as Hāthisigumpha Inscription of Khāravela. It is quite surprising that Dr. S. N. Rajguru⁴³ could have traced all the three sibilants from Hāthisigumpha Inscription of Khāravela. It is also not found in the Bhadrak stone inscription of Gana. But in the Aśokan Brāhmī records sh is a hook with centrally curved upward stroke and the lower curve in the letter is primary while the upper one is secondary.

**S:** Although three Sibilants occurred in the Aśokan Brāhmī inscriptions but in the Orissan epigraphy belonging to the 3rd century B.C. one common form is obtained that is dental Sa. It is only an additional hook in the same direction of attaching to the long left arm of the letter p (Plate No. I, Serial No. 1, 2). This variety is also adopted in the Hāthisigumpha Inscription of Khāravela (Plate No. I, Serial No. 3). but it is angularised in the record of Mafichapuri cave lower storey⁴⁴ (Plate No. II, Serial No. 1, 3). Its later development

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⁴³. S. N. Rajaguru, *Odiya Lipira Kramavikasha*, p. 3 ff
is occurred in the Bhadrak stone inscription of Gaṇa where the letter absorbs the Kushāṇa form. In some case the vertical stroke is shorter and a solid triangle is added as the serif on the top. The curved limb to left slants down slightly to right and the right curved limb shoots up very nearly to the wedge or the vertical line (Plate No. IV, Serial No. 2) as seen in the Mālvalli inscription of Haritiputra Śātakarnī of the early 3rd century A.D.

**H:** The letter h in the Aśokan Brāhmī alphabet consists of a right side hook and a horizontal bar added in the end of the hook (Plate No. I, Serial No. 1) but in some cases the curve line is used instead of the horizontal bar (Plate No. I, Serial No. 1). A slight change is formed in the Jaugada special edict on the word mahāmata where a vertical stroke hangs down from the horizontal bar (Plate No. I, Serial No. 2). But in the general form the letter looks like the reverse order of l. In the later epigraphic records as seen in the Hāthigumpha inscription two or more forms are obtained. The first category is of the old Mauryan form in which the lower part is curved and the height of the left vertical line is greater than that of the right limb. In the second variety the height of the left limb is reduced (Plate No. I, Serial No. 3) as noticed in haya and bahulam of line 4. The angularised form developed in the third category as in vavahāra of line 2 and hata of line 6. In the Maṇichapuri cave upper storey the curve variety as well as the angular form is also obtained (Plate No. II, Serial No. 2). In its later development as seen in the Bhadrak inscription of Gaṇa the vertical stroke is slightly curved along with the bottom back part of the letter (Plate No. IV, Serial No. 2). The letter h resembles in some Mathura inscription of the 1st-2nd century A.D. The letter almost resembled to the Allahabad Pillar inscription of Samudragupta which is particularly seen in line 1 on the word Mahārāja.

As studied from the palaeographical discussion of each script in the Dhauli and Jaugada rock edicts, ī, ū, ai, au, ś and sh are absent. The letters such as a, ā, i, u, e, o, k, kh, g, gh, ch, chh, j, jh, ā, t, th, d, dh, n, t, th, d, dh, n, p, ph, b, bh, m, y, r, l, v, s are used in well developed forms which clearly show that before the development of these letters, the scripts were prevalent in India. Even in some of the letter it has many more forms which suggests the scribes attitudes towards the writing either on the raw materials or what to develop another form of the same letter as in a, ā, kh, t, th, n and y. Although the scripts used in these two edicts present a general similarity all over India but some regional variations are noticed. The variations in these letters are quite possible owing to the employment of different classes of engravers. Each letter is definitely formed and no cursive writing in the way of continuous drawn out line is noticeable. Although the letters like kh, g, l and s represent curvature but it is uncontinuous and can not be identified as invariable feature of every letter. In some cases two reversible varieties are noticed as in o and dh. Inspite of minor differences the scripts can be formed as Imperial. But the royal rescript as in the Hāthigumphā inscription the changes are found out from the Aśokan mode of expression. The royal, popular and individualistic scribes developed and they follow different standards reducible into various regions on the basis of technical achievements which is known as provincial Brāhmi script as seen in the Hāthigumphā inscription of Khāravela. Although long vowels like long (dirgha) ī and long (dirgha) ū developed in the Aśokan Brāhmi alphabet, these two are undeveloped in the Hāthigumphā record of the 1st century B. C. where as only at is present. The preference for archaic forms are optionally met with in the Hāthigumphā inscription. This is bound to be the case in such a remote region where the new technical tradition could not get a foot hold for a
long time. The vertical of \( k \) is lengthened while the lower curve of \( p, s \) and \( h \) changed into an angular form. The Hathigumpha inscription shows an angular form like that of the Pabhāśa and Ayodhya inscriptions of the 1st century B.C. - 1st century A.D. Here the full use of the new pen and equulization of the verticals developed as in the Saka kshatrapa inscriptions. The vertical line of \( bh \) in the Nanaghat inscription of Queen Nayanikā is not straight but slightly bent where as in the Hathigumpha Inscription of Khāravela it is invariably a straight vertical line to the left. D.C. Sircar points out that the angular forms and straight bases of letters like \( b, p \) and \( n \) are usually found in the Hathigumpha record suggest a date not much earlier than the Besnagar Garuḍa Pillar inscription of Heliodorus. The letters such as \( k, kh, g, ch, chh, t, th, d, n, p, b, m, y, r, l, v, \) and \( s \) are found to be similar in form with the Nanaghat inscription of Queen Nayanika. The Hathigumpha script seems definitely belonging to the same period as that of the east, south and west gateways of stupa I at Sanchi. In some cases the above consonants of the Nanaghath exhibit southern influence while such influence is not applied in the Hathigumpha record. The letter \( j \) in the Haridās cave is drawn completely in angular form which is the special feature of the letters of Eastern India in the 1st century B.C. The tendency of predilection for cursive forms in the 2nd and 1st century B.C. epigraphic records dictated by the swift flow of the hand in writing deformed letters and paved the way for new shapes. The ornamental, curves, triangles and rectangular styles developed due to the form of ornate styles and fondness for symmetry with proportion. The head mark

50. MASB., Vol. XI, No. 3 pp. 131 - 46 ff
developed in the later inscriptions. The verticals by their tapering thickness received a new shape and that looks like the addition of a horizontal bar on the top of the letter as seen in the Kushāṇa, Western Kṣatrapa and Śātavāhana inscriptions. The triangular head mark developed in the Bhadrak stone inscription of Gaṇa. This style achieved by a three way turning of the pen instead of repeating of the same line for thickness. The letters used in this record resemble those of the so-called Eastern variety of the Gupta Brāhmi alphabet. The letter n and h are almost as developed as in the Allahabad Pillar Inscription of Samudragupta While k, m and s show the Pre-Gupta forms. In some case the form of n is found in the Northern Gupta form of the 4th century A.D. While g looks like the later western kṣatrapa script of the late 2nd - 3rd century A.D.