CHAPTER III

WRITING MATERIALS IN ANCIENT INDIA
After showing an approximate period of its origin and various stages of the development of writing in India, it would be our task to have an idea of the writing materials that were used in ancient India. As soon as the method of writing was introduced and extensively used by the Indians, the question of writing materials became gradually prominent. Numerous materials were taken into consideration in the early periods for making more or less permanent records of civilisation. The writing materials, thus, occupy a very distinguished place in the cultural history of India. It may be that those materials were not used all at a time, but there is no doubt as regards their existence as writing materials. The Rāyapaseni refers to various kinds of writing materials and accessories, such as Pattaga, Kambiyā (wooden board), dora (thread), saṅthi (knots), lippāsana (ink-pot), chandana (lid), saṅkalā (chain), masti (ink), lehaṇi (pen), akkhara (letters) and potthaya (book).

1. Katre, S.M. Introduction to Indian Textual Criticism, p. 4.
Birch-bark or Bhūrajapatra:

Among the writing materials, the birch-bark or the inner bark of the Bhūra tree (Baetula Bhojpattr) which grows abundantly in the Himalaya region, probably at first alluded to by the Greek historian Q. Curtius\(^1\) as a writing material was in common use during the period of Alexander's invasion. The earliest document written on birch-bark is a portion of Dhammapada\(^2\) in Kharoṣṭhī script, which was discovered from Khotan by a French traveller, M. Duthe Vit De-Rhines in 1892. Another manuscript of Sāmīyuktāgama sūtra written in Sanskrit was found from Khotan which belongs to 4th century A.C.\(^3\) Next the inscribed "twists" tied up with threads which were discovered by Mason from Afghanistan\(^4\). Besides the other important manuscripts written on birch bark are the Godfrey collections\(^5\) and manuscripts in the Bower collections of about 5th century A.C., the Gilgit

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1. Quintus Curtius Rufus (Historical Alexander Magus), ed. by E. Hedick, Leipzig (1908), VIII, 9.
2. The Manuscript is assigned to Circa 200 A.D. and edited by Senart in Journal Asiétique, 1898 and by Dr. B.M. Barua under the title "Prakrit Dhammapada" (C.U.).
3. Pandey, R.B. Indian Palaeography, p. 69.
4. Wilson, H.H. Ariana Antiqua, pl. 3 at p. 54, No. 11 and also Pandey, R.B. Indian Palaeography, p. 69.
5. Received by Capt. S.H. Godfrey, British Joint Commissioner of Ladakh and partially reproduced by Hoernle in Journal of the Asiatic Society of Bengal for 1897.
Manuscripts of Vinayapitaka of Sarvastivāda School of Buddhism of about 5th century A.C. The Bower manuscripts were written in the North-Western Gupta character and the leaves of which have been cut according to the size of the palm leaves. Mention may be made in this regard of the Bakshali Manuscript which was found at Bakshali near Mardan on the north-west frontier of India. This manuscript containing a mathematical treatise is supposed to belong to the eighth century and written in the Sāradā script.

Kumārasambhava (Canto 1.7) gives us an interesting description of birch-bark used as writing material: "Where (in the Himalayas) the birch-barks, spotted like the skin of an elephant, were used by the celestial damsels for writing love letters, on which letters were written with the solution of metals".

There are further sundry specimens of the birch-bark manuscripts discovered in Kashmir Valley. They are now all preserved in the libraries of Lahore, Poona, Calcutta, London, Oxford, Vienna and Berlin. The birch-bark was originally used in north-western India, but later on it was introduced in other parts of India and Central Asia.

2. ibid, and Archaeological Survey of India (New Imperial Series), Vol. XLIII, pts. i-ii, 1927; pt. iii, 1933.
as the copper-plates of Central, Eastern and Western India appear to have been cut according to the size of the Bürja, which in Kashmir mostly corresponds to quarto.

The practice of using birch-bark as writing material continued also in medieval India. This can be corroborated by Alberuni. According to him "in Central and Northern India people use this bark of the Tuz tree, one kind of which is used as a cover for bow. It is called Bhürja. They take a piece one yard long and as broad as outstretched fingers of the hand, or somewhat less and prepare it in various ways. They oil and polish it so as to make it hard and smooth and then they write on it ....... Their letters and whatever else they have to write, they write on the bark of Tuz-tree". ¹

Besides birch-bark, several other kinds of barks were used as writing materials in India at a later time. Mention may be made of barks of Sachi tree or aloes (Acquilaria agallocha) which were used for writing in Assam,² barks of Tunt or Mulbery (Morus Indica), Bata (Ficus bengalensis) and Neem (Malia azadirachta) were also used for writing special religious sayings and hymns or mantras.³

¹ Bachau, E. C., tr. Alberuni's India, I, p. 171.
² Goswami, H. C. Descriptive Catalogue of Assamese Manuscripts, p. XV (Introduction).
³ Yogini Tantra, 2.7.
Cotton Cloth:

The pieces of cotton cloth known as Pata, Patika, Karpasika Pata or Kadatam were also used as writing material in ancient India. To make it suitable for writing, a thick layer of wheat or rice pulp was applied first. Then when it became dried, the surface was rubbed with conches or polished stones and thus they became glossy and suitable for writing. In Mysore, however, this cotton cloth was first covered with a paste of tamarind seed before writing and then blackened with charcoal and finally letters were written with chalk or stealite pencil in black or white. The people of Mysore used to keep their accounts on books made of these sheets. They are known as Kadatam. These written documents on cotton cloth have been found from the Sringeri-Math and the document is nearly three hundred years old. The Kadatam was also used for writing down the accounts of the Maṭhas, for maintaining list of the copies of Śilā-lekhas or Tamrapattas and the list of the Gurus etc. Documents written on such sheets were found at Jesalmir, Anhilavadpattan and other places.

1. Datta, B.K. Libraries and Librarianship of Ancient & Medieval India, p. 113.
2. Bührer, Indian Palaeography, p. 140.
The earliest mention of cotton cloth as writing material is found in the writings of Nearchos,¹ and also in some of the Smṛti texts.² Yājñavalkya Saṁhitā (1, 319) and Nasik Inscriptions inform us that documents both official and private were written on Paṭa, Paṭikā or Kārpaśika.³

Besides, there are two manuscripts on cloth which are preserved in the Pattan Bhāndāras. One of these records is written in 1418 Saṁvat and contains 92 leaves measuring 25 inches X 3 inches. There is a transcript of Jayaprabhārata written on tracing cloth in the Jaina Bhāndāra at Baroda⁴. The cloth leaves are generally made by pasting two thick Khadi cloth pieces together⁵. A manuscript on such cloth leaves was found from a Jaina temple of Pattan. This is known as Dharmavidhi and is written by Śrī Prabhusuri and contains a commentary by Udaysimha. It consists of 93 leaves and each leaf is 13" X 5" and is dated 1361-62 A.C.⁶ The Jainas used to make Torāṇas before the temples

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1. ibid.
2. Bühler. Indian Palaeography, p. 140.
5. Gackeward's Oriental Series, VI. LXXVI
and prepare coloured maps by pasting coloured gums and rice on cotton cloths during the occasion of festivals. ¹

Silk was also used as a writing material in ancient India like Cotton cloth. But its use was restricted as it was costly. Alberuni records that he had been told that the pedigree of royal family written on silk existed in the fortress of Nagarkot.² A silk band with the list of the Jaina Sūtras written in ink has been found out in a Jaina library of Jesalmir by Bühler.³ Prof. Stein has further explored in the 'Ya-men' ruin a strip of white silk inscribed with Kharoṣṭhī. He has also found out three large pieces of fine coloured silk with Kharoṣṭhī inscriptions thereon at the ancient temples of Miran.

Wooden Boards:

The use of wooden boards as writing material was also prevalent in India from the earliest time. Even today in some parts of India shop-keepers make the rough accounts and calculations on wooden boards, students use them in their class-rooms, the astrologers use them for their calculations as well as some poor people of North-West Frontier Province copy sacred books on wooden planks with chalk.⁴

¹ Datta, B.K. Libraries and Librarianship in Ancient & Medieval India, p. 114.
³ Bühler. Indian Palaeography, p.146.
The earliest reference is to be found in the Vinayapitaka, which mentions that Buddhist monks used to write precepts on wooden boards.¹ The Jātakas² also record that the wooden boards used as writing material by the elementary school students was known as 'Phalaka'.³ Sandalwood boards were used as slates by the beginners is to be found in the Lalitavistāra.⁴ An inscription of the Western Ksatrapa Nahapāna mentions the use of wooden boards (pha-
laka) as writing materials. The epigraphical record further shows that wooden boards (phalakas) were used in the guild-
hall, on which agreements regarding loans were recorded.⁵

Kātyāyana prescribes in his work on legal procedure that complaints should be written on boards with chalk or Pandulekha.⁶ The Sanskrit work (fiction) 'Daśakumāra-
carita' refers to the use of varnished wooden boards as writing material, which further informs us of a royal declaration written on varnished board.⁷ Some of the manuscripts on varnished boards found in India are still

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2. Katāhaka Jātaka (No.125).
4. Nasik Inscription. No. 7, line 4 in Burgess' Archaeo-
logical Survey Reports, Western India, pp. 4, 102.
Bühler. Indian Palaeography, p. 146.
5. Burnell. South Indian Palaeography, p. 87.
possessed by Bodelian Library at Oxford. Nāisādhacarita (XXII, 52) of Śrīharsa also records that black boards were used in medieval India. Besides boards, bamboo chips were used in ancient India for writing passports.

Palm leaves:

Palm leaves known as Tādapatra or Tālapatra were very popular as writing material in ancient India. These leaves are easily available in quantity in almost every part of the country and cheap as well as lasting.

The early references to writing on palm leaves are found in Jātakas. The Tripitaka was first written on palm leaves after the death of Buddha. Kautilya’s Arthasastra also contains a list of forest products viz. birch (Bhūrja) and palm yielding leaves which are mentioned used as writing materials. Huien-Tsang, the celebrated Chinese pilgrims had also noticed the palm-leaf manuscripts as prevalent in the seventh century A.C. Hwui Li, the disciple of Huien-Tsang refers to the use of palm-leaf by ancient Indians as writing material as

1. Pandey, R.B. Indian Palaeography, p. 74.
2. Ojha, Indian Palaeography, p. 72.
follows:

"We come to Kongkanapura .... To the north of the city is a forest of Talas trees about 30 li in circuit. The leaves of this tree are long and of shining appearance. The people of this country use them for writing on and they are highly valued".¹

The palm-leaf manuscripts were made from the leaves of Corypha Umbraculifera, C. taliera and borassus flahelliformis. The leaves of these trees are long and tapering, with central ribs. All palm-tree manuscripts were pierced either with one hole, usually in the middle or with two holes on the left and the right, through which strings (Sutra Sarayantrakā) passed to keep the leaves together. Vellum and parchment were not used out of religious sentiment. Most of the sacred texts in ancient India were written on the palm-leaves which thus played an important role in the cultural life of this country. But it should be noted that palm-leaves seem to have been used more in the South than in the North, as palms are more common in South than in North India.²

Lotus leaves were used for writing letters. Kālidāsa's Sakuntalā bears references where King Dushyanta says: "Here is the folded love letters committed to the lotus leaf with her (Sakuntalā's) nails". The above lines show that writing of temporary nature was made on lotus leaves.

Besides, palm and lotus leaves, other kind of leaves viz., Ketaki, Mārtaṇḍa and Baṭa leaves were also used for writing purposes. Yoginī-Tantra contains a passage which prescribes that if possible books will be written also on Ketaki (Pandanus-odoratissimus), Mārtaṇḍa (Calotropis-gigantia) or Baṭa (Ficus bengalensis) leaves but whoever shall write on Basudal (other leaves) will face innumerable troubles. In Karpūramaṇjarī (II,7), Rājaśekhara refers to letters written on Ketaki flower leaves (Ketakiḍakalekha). Śrīhāra also informs us in his Naiṣādha-Carita the use of leaves of golden Ketaki flowers for writing letters with nails.

Skin or Leather:

We have ample evidence to show that animal skin was used as writing sheet, although religious feelings were against it. We know that Strabo noticed an Indian official

1. Kālidāsa. Abhijñāna-Śakuntalā, Canto III.
2. Yogini-Tantra as quoted in Visva-Kośa, V. 12, p. 27.
document on parchment sent to Augustus Caesar who expired in A.C. 14.¹ Some Buddhist works include skin among writing materials.² From a reference found in Subandhu's "Vāsavadatta"³ it may be inferred that skins were used for writing. Bühler also noticed a manuscript known as Brhajñāna Kōsa written on skin or leather which is kept in a Jaina Library at Jesalmir.⁴

During the exploration of the Niya site, Stein discovered many ancient records, correspondences etc. written on leather and wood and some of which bear the date of the 3rd century A.C.⁵ As these documents contain Indian characters, it may be said that they migrated from India. Stein writes "The finish given to the leather of these ancient documents indicates extensive practice in the preparation of the materials". Thus it may be presumed that the use of leather as writing material was not altogether out of use in ancient India. Probably the fact was that leather was not used for copying religious texts. It was employed for secular official correspondences only. Thus leather was not extensively used in writing due to strong religious sentiment against it.

¹ McCrindle. Ancient India as described by Strabo, p. 71.
³ D'Alwis. Introduction to Kaccāyana, XXVI.
⁴ Hall, ed. Vāsavadatta, p. 182.
⁵ Bühler. Indian Palaeography, p. 106.
Metals:

Metals also were widely and popularly used by ancient Indians as writing materials. Besides frequent mention in literature, there are a few instances to show that metal plates with inscriptions were used for some important grants. Among the metals used for writing mention may be made of gold, silver, copper, brass, bronze, iron and tin.

Gold and silver were used for recording votive inscriptions. There are many references to writing edicts, literary works and land grants on gold plates in Ruru, Kurudhamma and Tesakūra Jātakas. Burnell also corroborates the truth. Cunningham discovered an inscribed gold-plate at Taxila in Kharoṣṭhī script. Writings on silver plaques or plates were discovered at Bhattiprolu and official documents were found at Taxila.

The Jaina temples generally contain round silver plaques with Mantras incised on them. Four such Navapāda plaques with Mantras and one plaque with Rṣi Maṇḍala Yantra were preserved in the temples of Jaina Svetambar sects in Ajmer. It may be mentioned that there are manuscripts written on gilded and silver plated palm leaves in the

2. Burnell. Elements of South Indian Palaeography, p. 90-93.
4. Bühler. Indian Palaeography, p.43.
5. Corpus Inscriptionum Indicarum, Vol.II, P. I, pp.80 and 81, Plate IX.
British Museum. As the gold and silver are costly metal, writing on them was very rare.

But copper-plates were, perhaps, the most widely used writing materials. These are generally designated as Tamrapaṭa, Tamrapattra, Tamvasāsana, Tamra, Tamraphali, Tamraphalika, Śasanapatra and Dānapatra. The copper-plate was sometimes cast in a mould of sand into which the letters and the emblems above them had been previously scratched with a stilus or pointed piece of wood. On such a plate both the letters and the emblems appear in relief. The Sohagura copper-plate, the earliest find so far discovered, was a cast in mould of sand after the letters, architectural designs and emblems were scratched with a pointed stilus. Some copper-plates, again, had been fashioned with the hammer and chisel, and many among them show distinct traces of the blows. The sizes of the copper-plates vary too much unlike those of palm-leaf or birch-bark manuscripts. Sufficient margins were left on the copper-plates. Generally lines ran parallel to the broadest side of the plate.

The practice of writing on copper-plates was in vogue in Mauryan period. The oldest copper-plate, i.e. Sohagura copper-plate that we get at present belongs to the Mauryan era. Fa-Hien and Hiuen-Tsang, the two illustrious Chinese pilgrims had also noticed the use of copper-plates as writing materials. Fa-Hien recorded in his itinerary that the Buddhist monasteries preserved copper-grants of which some of them were as old as the time of Lord Buddha. Hiuen-Tsang mentioned in his travel-diary that after the meeting of the First Buddhist Council, Kañika wrote the whole Vinaya text on copper-plates, placed them in stone-boxes, which later on deposited in a tope made for the purpose. Maxmuller, the great indologist informed us that the entire commentary of the Vedas by Sâyana was written on copper-plates. But Burnell was not agreed with Maxmuller over this point. However, there are ample evidences to show that even valuable literary and religious texts were engraved on copper-plates.

1. Bühler. Indian Palaeography, p. 43.
3. Beal. Tr. Si-Yu-Ki : 1. XXXVIII.
The Tirupati Temple preserved the works of Tallapaka family engraved on copper-plates. Similar specimens are also found in Ceylon and Burma which are now housed in the British Museum.

Brass was seldom used exclusively for writing purpose. Writings on brass are mostly found on brass-images which belong to the seventh century A.C. The Jaina temples of Achalgadh at Mt. Abu contain some of such inscribed images. Bronze, iron and tin were very rarely used as medium of writing. The writing on bronze as found belongs to a very late period. The specimen of writing on iron can be traced on the famous iron-pillar of Chandra at Delhi, while the only example of writing on tin now preserved at the British Museum, London. However, from the above discussion it may be said that metallic plates as writing materials were undoubtedly used popularly in ancient India.

3. Pandey, R.B. Indian Palaeography, p. 82 ff.
4. ibid. p. 82.
Stone:

In order to make the official records, which include mainly treatise, land grants, agreements, royal proclama-
mations and orders as well as dedications and commemorations and sometimes religious and literary works more durable and lasting, stone was used as the medium of writing in ancient India. Therefore, as a writing object stone also played an important role in ancient Indian life and culture. Among the writing materials it is, perhaps, the oldest, easily available and more or less of permanent character. Asoka, the great Mauryan emperor of the 3rd century B.C., himself ordered his men to inscribe codes of better livelihood on stones as these were supposed to be durable.¹ The bulk of the stone inscriptions beginning with Asoka, help us to ascertain the great demand of stones as writing materials. Besides, quite a large number of fragments of plays composed by Cáhamána King Vigraha IV, and his poet-laureate Somadeva discovered at Ajmir, are now preserved in the museum of Rajputana. The Jaina Sthala-puráṇa in several cantos have been found written on stones.

¹ Aśokā Pillar Edict. II.
Bricks:

Bricks were also used in ancient India as writing materials. Although we lack at present the voluminous remains of brick-books as are found at Mesopotamia and West Asia, yet a few writings on burned bricks of varied sizes and shapes have actually been discovered in India. Some Buddhist Sūtras which were written down on bricks have been found out in the Gopalpur village of the Gorakhpur District, Uttar-Pradesh. The length of the bricks are 11-6" X 9-6". Some of them contain 12 to 10 lines while others 12 X 9 lines and they can be assigned to 3rd or 4th century A.C. There are some earlier specimens in Mathura Museum which can be dated in the 1st century B.C. A few other specimens of writings on bricks were found from the old fort of Ujjain near Kasipur in the Tarai area of Nainital District, Uttar Pradesh. Besides, there are few examples of writing on clay-tablets. Letters were generally inscribed on these clay-tablets or burned bricks when these were soft before baking.

Besides bricks, earthen wares and earthen seals were used for writing purposes. The writing on the seals is generally protruding like the press-types.

1. Cunningham, A. Archaeological Survey Reports, 1, 97, 5, 102.
3. Pandey, R.B. Indian Palaeography, p. 77
4. Archaeological Survey Report, 1903-4 (Plate 60-62); Indian Antiquary Vol. 14, p. 75; Pandey, R.B. Indian Palaeography, p. 77.
Like wooden boards, terracotta boards were also used for writing in ancient India. Two similar boards were identified by Mr. Mackay from the finds of Mohenjo Daro. The size of one of them is 7 inches long by 3 inches wide with a thickness of 0.4 inches. These boards are first prepared with a thick white coating which is washed off when finished with.¹

Paper manuscripts came into vogue at a much later age. It might be dated as far back as the thirteenth century A.C.² The earliest examples of paper manuscripts found in India are: a manuscript dated in 1231 A.C. (6" X 4"); Jaina manuscripts on paper found at Patan, North Gujarat of A.C. 1278; other Jaina manuscripts discovered at Limbdi, Saurashtra State dated 1357 A.C.³ Rajendralal Mitra, however, asserts that a "letter-written" by King Bhoja of Dhārā proves its use in Malava during the eleventh century⁴. The oldest paper manuscript in Gujarat is said to date from A.C. 1223-1224.⁵

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4. Gough's Papers, 16.
5. Bühler, G. Catalogue of Manuscripts from Gujarat, etc. i, p. 238, no. 147.
1384 and 1394 (A.G. 1327-28 and 1337-38), the leaves of which are cut according to the size of the palm-leaves, have been discovered by Peterson at Anhilväd Pātan. It is very doubtful if any of the ancient manuscripts from Kashgar, which are written on a peculiar paper covered with a layer of gypsum, are of Indian origin. Hoernle believes that all of them were written in Central Asia.¹

Besides the objects on which actually writing was done, there were extreme need of other materials, and among them, ink or dye occupied the most important place. Ink seems to have been used for writing since very early times in India. The writings of Nearcho and Q. Curtius show that ink was already in use in India during the 4th century B.C.² Ink-dots are sometimes substituted for loops in the formation of certain letters, as is evident in some Asokan edicts. This phenomenon suggests that ink was used when edicts were inscribed.³ Further, several Brāhmī and Kāraṇī manuscripts discovered from Khotan and India in the first century A.C. were written with ink.⁴ The oldest specimen of writing with ink, so far known, is on the relic-vase of the Stūpa of Andher and is certainly not later than the 2nd century B.C.⁵ Sanskrit term 'Masi' was frequently

¹ Winner Zeitschrift für die Kunde des Morgentaudes, vii, p. 261.
³ Bühler, Indian Studies, III, 6ff, 69.
⁴ Bühler, Indian Palaeography, p. 196.
⁵ ibid, p. 94.
used in Grhyaśūtra, which is undoubtedly a pre-Christian work. Paintings with several inscriptions written in ink are still noticed in the caves of Ajantā.

Ink of different colours was used for writing purposes in ancient India. Among these mention may be made of black, red, gold and silver colours. But the black coloured ink was commonly used. Carbon ink was used in the Kushana period. The Jainas also used coloured ink extravagantly in their manuscripts.

Red ink was used in ancient India to mark vowels in the handwritten Vedas and to mark the marginal lines. Sometimes at the end of a chapter the stops and the words like "Bhagavan Ubāch or Rṣi Ubāch" were written with red ink. Gold and silver coloured ink were used by the kings and nobles for writing sacred and literary works for their private use. Traces of such writings were amply found in the Jaina Libraries of Western India.

1. Pandey, R.B. Indian Palaeography, p. 82.
2. Burgess. Archaeological Survey Reports, Western India, 4, pl. 59. (Bühlert. Indian Palaeography, p.146).
Writing ink in ancient India was known as Mās or Māsi or Melā. The ink-pot likewise called in Sanskrit Masipātra or Masībhānda etc. It may be pointed out that the ink-pots for keeping inks were used in ancient India even in pre-historic days. This can be corroborated by the discovery of ink-pots from the many findings of Chanhu Daro and Mohenjo Daro. The specimen of a theiromorphic jar found at Mohenjo Daro which has been identified by Marshall and Sir Arthur Evans in the shape of a couchant ram with a deep hollow and a slightly rimmed aperture in the middle of the back might have been an ink-pot for carrying ink therein.

Besides, many earthenware and copper ink-pots of various sizes and shapes were discovered at Taxila. Among them the copper ink-pots with serpentine handle with the stopper attached to the handle by means of a short chain deserve special mention. Sir John Marshall gave an elaborate description of all these types which are to be dated in

1. Böthlink and Roth. Sanskrit Waterbach; and Bühler, Indian Palaeography, p. 146.
2. Bühler. Indian Palaeography, p. 146.
1st century A.C. 1 An ink-pot containing black carbon with earth was discovered at Taxila. 2

Ink was generally made of gum, sugar, dust charcoal, lamp-black, borax, lac, etc. Besides these sometimes chalk and red lead or minimum (hiṅguṇa) were used as substitutes for ink in ancient times. 3

The instruments for writing or objects by which writing could be done were usually known as 'Lekhānī', 4 or 'Kalam'. 5 Besides these, the other terms used to denote an instrument of writing were as — Varpaka or maker of letters, 6 Varṇikā, 7 Varṇavartikā, 8 Tūli, Tūlikā and Śalākā 9 and Śalaī. Śalākā includes the stylus, pencils, brushes, reed and wooden pen which mainly used in South India, while Śalaī was used in Mārāthī language. 10 The pen made of reed or wood was usually known as 'Kalama' and its rare Indian name

2. ibid.
3. D'Alwis. Introduction to Kaccāyana, XVII; Jātaka, no. 509 (4, 489), pointed by Oldenberg.
8. Daśakumāracarita, Ucchavasa II (coloured pencil).
was Lāikā.¹

The Salākā or stylus was made to inscribe letters on palm leaves. It was made of iron or steel with pointed top. The stylus as writing instrument was widely used all over India, specially in South India from very ancient period. But the earliest specimens available were made of bone. Several specimens of stilts made of ivory and bone were discovered at Taxila. Two copper pens with point divided by a cut in the middle as in the modern nib have also been found in the remains of Taxila which may be dated to first century A.C.

Chalk-sticks (Kathini or Kathika) were also used in order to write on slates or black-boards. In Naiṣādha-carita (X. 86, XVI, 101 and VI, 9), we find the mention of chalk-sticks. They were hard and circular in shape (XVI, 101).

We find in the earliest references the mention of professional writers or scribes who were responsible for writing and copying of manuscripts and sacred texts. They were called 'Lekhaka'², as referred to in the Epics and Buddhist literature. The same term was also found in Kautilya's Arthaśāstra.³ But the term 'lipikara' or

1. Bühler. Indian Palaeography, p. 137.
2. ibid. Ch. 39, p. 147.
'libikara' was used in the 14th Rock Edict of Asoka. We noticed in the Siddapum edicts where the writer described himself as 'Lipikara' and the Sānchi Inscription (Stūpa No. 1, No. 143) mentioned the writer as 'Rājalipikara'. The term was also known to Pāṇini in the 4th century B.C.

In Western India, the professional writers were known as 'Divira', which derived from the Persian word 'Debir', while in a number of Vallabhi Inscriptions of the 7th and 8th centuries A.D. the writer of the documents was known as 'divirapati'.

Hiuen-Tsang recorded that when he visited Palace Library in Kashmir, twenty scribes were employed in the library by the king to copy out manuscripts for him. In Kashmir, the scribes or the professional writers were known as 'divira', and we find innumerable references in Kalhana's Rājatarangini and in other Kashmirian works of the 11th and 12th centuries A.D. Kṣemendra, in his work 'Lokapraṃśa subdivided the scribes or diviras as Gaṇjadivira (Bazar writer), Gram-divira (village writer), Nagara-divira (Town writer), and Khavasa-divira etc.

1. Bühler. Indian Palaeography, p.150.
2. Epigraphica Indica, 2, p.102.
3. Agarwala. India As Known to Pāṇini, p. 311.
4. Bühler. Indian Palaeography, p.150.
5. Ibid.
In Eastern and Northern India since the 11th Century A.C., the professional writer was also referred to as 'Kāyastha', although as a caste-name it first occurred in the Kaṇsava inscription of A.C. 738-39. The other terms used for writers of inscriptions were known as 'Karāṇa', 'Karāṇika', or more rarely 'Karāṇin', 'Sāsanika' and 'Dharmalekhin'.

The Kāyasthas used to enjoy a dignified position in the society. It is evident from Chandella inscriptions that Kāyasthas became prominent particularly in Central India during the 11th Century A.C.

Sri Siddharāja Jayasiṃhadeva, the celebrated Jain King of Gujarat appointed three hundred professional writers or scribes and ordered to copy 1,25,000 Siddahēma Vyākaraṇa to be presented to the students. The other Jain works, viz. 'Prabhāvakacarita' and 'Kumārapāla Prabandha' also abound with such references.

We find that the professional writers or scribes in ancient India, engaged and maintained a distinct profession and held a respectable position in the society and they

1. ibid.
used to be paid decently in ancient time\(^1\) for their work. Like ancient Rome and Greece, the profession of scribe in early days in India held a high esteem and was a very important one. It corresponded to the professions of printer and publisher of modern times.\(^2\)

We have discussed so far the various writing materials which were then prevalent in ancient India. These are all necessary ingredients of a book. But the story of emerging of actual form of a book in India is still interesting. As regards the general construction of the book, it is found that it is made up of groups of leaves.\(^3\) The pagination of manuscripts is dependent on the leaf as the unit and not the page\(^4\). The leaf or patra is numbered on the first page or prsthā in the South, on the second elsewhere. A few birch-bark leaves found in Central Asia and written in the North Indian (Gupta) Brāhmi character, show the numbering of the leaves on the first page of the leaf on the basis of which Bühler assigned them to South India. This method of marking may have been

\(^{1}\) Prasasti Samagraha, 1, 32, and 33.
\(^{2}\) Pay, Lucy E. & Eaton, Anne T. Instruction in the use of books and libraries, p. 343.
\(^{3}\) McKerrow, Ronald B. An Introduction to Bibliography, p. 25.
\(^{4}\) Winner Zeitschrift fur die Kunde Morgenlandes, i.e., the Viena Oriental Journal, vii, p. 261.
independently current in Central Asia as instances of paper manuscript with Central Asian Brāhmī help us to prove, from the Macartney manuscripts themselves.

According to Rajendralal Mitra,¹ the palm-leaves, to be used for writing, are first dried, next boiled or soaked in water, then again dried and finally polished with stones or conch-shells and cut to the proper size. It agrees with this statement that the leaves of the ancient manuscripts from Nepal and Western India frequently show traces of an artificial preparation. The length of palm-leaves varies between one and three feet, and their breadth between one and a quarter and four inches. Against this Burnell² asserts that the people of Southern India took no trouble with the preparation, and mostly even neglected to trim the leaves properly. The last assertion is not borne out by the appearance of the South Indian manuscripts, though it is no doubt true of the leaves used by clerks and men of business in offices and for letters³. On the otherhand,

if, as is mostly the case, the several metal plate were required for one document, they were usually connected by copper-rings passed through round holes in the plates. The single ring is usually found in Śāsanas from Southern India, and then the hole is usually made in the left side of the plate. If there are two rings, the holes go through the lower part of the first plate, the upper part of the second, and so on alternately. The rings correspond to the threads which keep the palm-leaves together, and they make of many tāmraśāsanas small volumes. The Kāśikudi grant (8th Century) is written on eleven plates, the Hirahadagalli grant¹ (4th Century) on eight which can be opened quite conveniently. The lines run always, except in the Vijayanagara plates parallel to the broadest side of the plates. The letters have mostly been incised with a chisel, rarely with a graver. In order to protect the writing, the rims of the plates are usually thickened, and slightly raised, at the first side of the first plate, as well as the second side of the last, is left blank. The copper seals attached to the plates seem to have been cast, and their inscriptions and emblems are raised on a

¹ Epegraphica Indica, i, p. 1 ff.
counter-sunk surface. According to Bāna, the state seal of King Harsa was made of gold.

Only in the Jaina libraries the palm-leaf manuscripts sometimes are kept in small sacks of white cotton cloth, which are again fitted into small boxes of white metal. The collections of manuscripts which, frequently are catalogued, and occasionally, in monasteries and in royal courts, are placed under librarians, generally are preserved in boxes of wood or cardboard. Only in Kashmir, where in accordance with Muhammadan usage the manuscripts are bound in leather, they are put on shelves, like our books.²

As regards the physical get-up, it is found that an ancient Indian book (potthaka/punthi) consists of a number of leaves, cut of a practically uniform oblong shape, generally enclosed between two wooden boards, and held in position or 'bound' by a string which passes through a hole drilled through the whole pile. This fashion of making up a book is peculiar. In all Indian books, as we have mentioned before, the hole is placed in the middle of the pile of leaves; or there are two holes at equal distances from the margin, in the middle of the

right and left halves of the pile. On the otherhand, in the manuscripts from Central Asia there is only one hole, which is invariably in the middle of the left half of the pile. There are reasons to believe that this was also the practice in India in very early times. In the old Indian Copper-plate grants, the copper leaves are strung together on a copper-ring which passes through a hole close to the left margin of the leaves. The practice of incising records on metal plates is a very ancient one in India; instances of such records on gold plates are already mentioned in the Jātaka. The practice was afterwards transferred to manuscript-books, when the latter came into vogue. But owing to the fragile nature of their materials (palm-leaf or birch-bark), the hole was naturally placed further away from the margin, about the middle of the left half of the leaves. This may be seen in the Bower manuscript which is written on birch-bark, and Part II of which belongs to the earlier period of the 5th century A.C. Somewhat later, the practice arose, for the greater safety of the leaves, to make two holes at corresponding distances from the right and left margins. The earliest examples of this practice are presented in the Horiuiz

manuscript\textsuperscript{1} and in the two Nepalese manuscripts of the Cambridge Collection numbered 1702 and 1049\textsuperscript{2}, all of which belong to the 6th Century A.C. Still later arose the practice of replacing the two holes by one whole in the middle of the leaves. The existence of this practice is recorded by Alberuni in the 11th Century A.C., who\textsuperscript{3}says that "the Indians bind a book of palm-leaves together by a cord on which they are arranged the cord going through all the leaves by a hole in the middle of each." The hole was not at first in the exact middle, but probably a modified survival of the ancient practice - slightly more to the left, as seen in the Nepalese manuscript no. XXI (Palaeographical Society) which is dated in 1015 A.C. Still later, the hole appeared in the exact middle of the leaves. The peculiar position of the string - hole in the Central Asian Punthis, therefore, points 'pro-tanto' to a very early date for the introduction of the Indian fashion of book-making into Eastern Turkestan, and for those Punthis themselves.\textsuperscript{4} As to the binding of book or manuscript in ancient India, it is found that wooden covers, cut according to the size of

\begin{enumerate}
\item Anecdota Oxoniensia, Vol. I, pt. III, plate I.
\item Bendall's Catalogue, Plate I, figs. 1 & 2.
\item Sachau, E.C., tr. Alberuni's India, V.1, p. 171.
\item Journal of the Asiatic Society of Bengal, Vol. LXX, pt. ii, 1901.
\end{enumerate}
the leaves, were fixed with the Bhūrja folios and palm-leaves, which had been drawn on strings. In the South the covers are mostly pierced with holes through which the long strings are passed and then round the covers and be knotted. This method of binding was in use already in early times, and is to be seen in the palm-leaf manuscripts from Western and Northern India. The manuscripts which were, thus made ready, were after decorated by dyed or even embroidered cloth. But the book in its modern form came into existence at a much later date. The evidence of manuscripts themselves as to the age of writing in India does not carry us far back, owing to the unsuitableness of the Indian climate for their preservation. Manuscripts of the thirteenth century A.C. are very rare; extremely few have been discovered in India dating from the twelfth and only one from the eleventh century. In its infancy book was simply a copied and a hand-written manuscript of which leaves had further been secured with the strings. In the shape and size of the leaves of the Punthis there is much variation; but they all agree in being decidedly oblong. In this particular, they clearly imitate the Indian palm-leaf. In India, as we have seen previously, two kinds of materials were used for book-writing, the leaves of the Corypha palm (Corypha umbra-culifera) and the inner bark of the birch tree (Betula utilis).

1. Macdonell, A.A. India's Past, p. 54.
both in a prepared state. Palm-leaf was the common material, employed everywhere throughout India; its shape, a decided narrow oblong, was determined by the shape of the segments or strips of the natural leaf. Birch-bark was only used in the extreme North-West of India, concurrently with palm-leaf; and its shape was that of large, squarish sheets. Seeing that the paper was made in large squarish sheets, narrow oblongs must have been determined by people who were accustomed to the Indian use of palm-leaves. The Bower manuscript shows that even birch-bark was occasionally treated in this way and cut up into oblongs after the mode of the Corypha-leaf.

Thus is the romantic tale of the book from its non-existence to existence in the form of palm-leaf or birch-bark manuscript. Before entering into our subject-matter, it is extremely necessary to show the various stages through which the book passed before it took its actual physical form. It may be that after the invention of paper and with the introduction of printing, the book took its more elaborate and decorative form through numerous experiments. But what we find from the above, it may be said that immediately after the appearance of writing and utilisation of writing materials, an attempt was made to give the early manuscript the form of the book.