During the course of history various modes of conveyance have been invented by man. The Sanskrit word यान is often employed to denote all the means of communications. Many ancient texts give various classifications for the modes of transport. Those illustrated in the Ajanta paintings have been classified as follows:

**Land Transport**

1. Animals used for transport such as horses, elephants etc.
2. Conveyances without wheels such as palanquins.
3. Wheeled vehicles such as carts and chariots.

**Water Transport**

1. Boats and ships.
1. Animals used for transport - Horse

The importance of horse as a mode of conveyance can never be over-emphasised. When its qualities were recognised by man, the animal revolutionized the science of warfare in ancient times. The horse has a high antiquity in India. The Harappans probably knew it, for bones of horse have been found at some Harappan sites. Very recently a terracotta animal figure has been reported from Lothal and the same has been identified as a wild species of horse (Onager) which even today roams about in the Rann of Kutch. But we do not know for certain whether it was used by the Harappans for some specific purpose. The Aryans who came later, are known for their swift-moving horse-chariots and the Vedic literature teems with references to horses and horse-chariots. However, it appears that even the Vedic Aryans used it, not so much for riding, than for driving purposes.

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2. Sankalia, Indian Archaeology Today, p. 61.
At first there seems to be nothing remarkable in this fact until one remembers that, paradoxically enough, in nearly every part of the old world, there is definite evidence to show that horses were driven long before they were ridden. It was the Central Asian tribes who were the first to use horse for riding, even though they might have used it for drawing wheeled vehicles prior to riding. The art of riding later spread over different parts of the world when people came into contact with the Central Asians.

In India horse does not appear to have been commonly used even before the invasion of Alexander the Great. Nearchus records only the elephants in Porus' army; he is silent about horse-chariots, not to speak of cavalry. The epics, too, do not contain any reference to a well-organised cavalry. This would suggest that horses came to be employed for riding commonly a couple of centuries before the beginning of the Christian era. This may probably be due to our contact with the Scythians during that period. The art of riding appears to have become common in the later period.

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and hence we find a cavalry wing of the army in
the Gupta period.

Horses are frequently depicted in the Ajanta
paintings. They are shown ridden as well as yoked to
chariots. They are usually richly caparisoned.
The horse trappings described below are indeed
interesting.

**Saddle**

Saddle in many cases (Sutasoma Jātaka, XVII;
Mahājanaka Jātaka, I) consists of a piece of cloth
decorated with coloured patterns. It may also be a
stuffed cushion. This saddle cloth is possibly
secured by a girth band around the belly of the
horse, which, however, is not seen.

Another variety of the saddle (Pl. XXVI,2)
consists of a thick, padded cushion with a curved
projection in the front (Sīmhała Avasāna, XVII).
It bears striking resemblance to the modern saddles.

It may also be stated that stirrups are
nowhere seen clearly. However, it would be bold to
say that they are conspicuously absent as many
details cannot be made out in the paintings.

**Bridle**

The bridle consists of thin straps, probably of leather, and includes a forehead band, cheekpieces and a nose-band, all adorned at their joints with floral bosses. In some cases they also have small fly-whisks at the joints and a bigger one on the head. The bits can be inferred from the extension of the vertical strap just below the nose-band and ending at the jaw. At the junction of the nose-band is also sometimes seen a hook (Viséntara Játaka, XVII). The reins consist of a double strap (Pl. xxvii, 1).

The controversy created by Arrian's statement regarding the absence of horse-bits in India has been settled by a contradictory statement of another authority, Megasthenes, who mentions horse-bits. But Ferguson, relying on Arrian's testimony, credited the Greeks with the introduction of horse-bits into India and quoted, in support of his contention, the similarity of words for snaffle in Sanskrit (khalina) and Greek (μακρόνος) and their presence in the sculptures at Sanchi.

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2. Ibid.
Breast-bands

The horses are also shown provided with breast-bands adorned with crescentic pendants and tassels or small bells (Pl. XXVI,1). This band is sometimes fastened to the saddle (Pl. XXVI,2). There is another similar band, without pendants, at the back and the same is passed from below the tail of the horse. This is provided with a view to preventing the rearing or rising of the horse on hind legs.

This device is also seen on the Gupta coins. These bands are usually referred to as kakaya while the crescentic ornaments have been identified by Dr. Agrawala as lavana-kalayi, which, according to him, are wooden pendants. A very similar ornament occurs on Gupta coins also.

The word lavana-kalayi, according to Dr. Agrawala, may be of Sassanian origin. It should be borne in mind that horse trappings is an innovation of the

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Central Asians and it may not be unlikely that the word lavana-kalāyi may ultimately be of Central Asian origin. Another factor worthy of consideration is that similar ornaments were used in ancient Greece, not only by women and children, but also as decoration for horses. It is, therefore, not unlikely that this particular ornament was introduced into India by the Hellenistic Greeks.

From the painted illustrations it is difficult to say anything precisely regarding the breed of the horses. Many of them are majestic and appear to be of the finest breed which was imported from Kamboja (in Central Asia) and Persia. The people of Kamboja are said to have presented to Yudhisthira. Much care was bestowed on the royal horses for which excellent stables (mandura) were constructed in the palace area.

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4. See *Supra*, pp. 34-34.
Elephants

Elephant was one of the symbols of sovereignty in ancient India and was, therefore, a favourite beast of kings. There are many illustrations of elephants at Ajanta and some of them are richly ornamented with elaborate trappings.

The housing for elephants, like that for the saddle of the horse, consisted of a thick padding covered with a piece of carpeting or embroidered cloth secured by girths, and bells are suspended from the saddle (Simhala Avadāna, XVII). A band tied to the saddle and passed from below the tail is also seen in some panels (Buddha Preaching, XVII).

The neck, the forehead and the trunk of elephants are most lavishly ornamented (Pl. XXVI, 3). A number of pearl-strings together with one of large, gadrooned beads are seen around the neck. On the forehead also are seen similar pearl-strings from which are suspended bell, crescent and rosette pendants with pearl tassels. This ornament can be identified as the naksatramāla referred to by Bana.

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1. Agravala, Harsacharita, p. 40; Agravala, Kādambarī, pp. 97-98.
On the trunk is seen a huge floral boss secured by pearl-strings. It is also embellished with pearl tassels. It is joined by means of pearl-strings to a similar disc on the forehead which is suspended from the naksatramāla.

The tusks are ornamented with gem-set golden sheaths (Buddha Preaching, XVII).

Howdah

A howdah (Pl. XXVI,4) depicted in Cave XVII (Buddha Preaching) is a simple seat mounted on four short legs and having a high back and arms. The exterior of the arms is decorated with sun and moon patterns.

Another example in the same panel has no arms, but some roll cushions are kept at the back.

The howdahs do not occur in early Indian art, and literary references to them are also rare. A definite reference to howdah is to be found in the Agni Purāṇa which states that "it should be made of wood of trees that emit a milky sap when wounded; it should be fifty fingers broad and
three cubits long and painted and decorated with gold."

Another device that the elephants at Ajanta are provided with is a rectangular board to protect a warrior from enemy's missiles (Sīṃhala Avadāna, XVII). It stood behind the mahout, and the warriors and his attendants seated behind it. The example in the Sīṃhala Avadāna (XVII) is decorated with sun, moon and star patterns. It is needless to mention that this device was used only in war. Two quivers are shown attached to it.

**Elephant goad**

A goad (āṅkūṣā) consisting of a rod with a curved, pointed metallic attachment was used for driving elephants (Pl. XXVI,5).

From the painted illustrations it appears that elephants were used in war and for state occasions. It is needless to mention that elephant formed a very strong wing of the ancient Indian army. Arrian makes a special mention of the elephants.

in Porus' army. Kautilya prescribes the duties of the officer looking after elephant stables. And in spite of the formations of regular cavalry divisions in army during the later period elephant continued to occupy the same position. This may also partly be due to the fact that there was a good supply of the beast within the country itself while horses of fine breed had to be imported from Central Asia and Arabia as is the case today. Elephants are still reared in Mysore and Assam which parts must have been famous in the ancient past as well, for, we are told that some Eastern Indian kings presented Yudhisthira a number of elephants which had long, powerful tusks begirt with golden girdles (hemakaksya) and fitted with lotus coloured elephant-clothes (padmavarna-kuthavrta) and armour (kavachavrta), while some of them presented him variegated elephant coverings.

1. Majumdar, op.cit., p.37.
**Palanquin (śibikā)**

A palanquin was mostly used by ladies of rank; it was usually carried by four men. There are only two representations of palanquins: both occur in the same panel (Exile, II). One is severely plain while the other is decorated, but both are identical in shape. They consist of a box-like frame mounted on two horizontal poles and have a flat top. One of the specimens is decorated with a central vertical band with two curved bands, one each on either side, joining it. These bands contain criss-cross and beaded ornamentation (Pl. XXVI, 6).

Palanquins are usually referred to as śibikā and were generally carried by men (chaturasrama yānam). They were in use till very recently and are presently to be seen only in religious festivals.

**Bullock-cart (śakata)**

The bullock-cart is perhaps the oldest and commonest wheeled vehicle in India; it is as

1. Raghu, VI, 10.
common today as it was in the third millennium B.C.
Yet there are only a few illustrations of it at Ajanta.

The cart (Pl. XXVI, 7) usually consisted of a box-like frame mounted on two wheels, with lotus-petal shaped spokes. The specimen in the Samsāra Chakra (XVII) is provided with a gable roof, possibly made of split bamboo, to protect the occupants from the sun and rain.

Another variety has a vaulted roof (Mahāumagga Jātaka, XVI).

The roofed carts were probably intended for joy-rides and not for transporting materials as is the case today. The Mrchchhkatika refers to such roofed (apavārita) carts.

The Ajanta examples of bullock-carts are not far removed from their Harappan prototypes and from their modern successors. A bullock-cart is one of the very few objects of our cultural equipment in which persistency of custom is so great and the progress of art so cramped that no appreciable change is effected in it during the course of the last five thousand years.

Chariots (Ratha)

The chariot was a favourite vehicle of our ancient kings and was also an important component of army. The Harappans do not seem to have known it and from its references and descriptions in the Vedic literature it can be said to have been brought into India by the invading Aryans in the beginning of the second millennium B.C., even though it was known in other parts of the ancient world at a very early date. It becomes quite common in the later period as can be inferred from its detailed descriptions in the Mahābhārata. The Arthaśāstra deals at length with the measurements of different varieties of chariots. The poets also refer to the chariots with lavish ornamentation, which, though due partly to the lively fancy and poetical imagery, no doubt implies a sub-stratum of ornament in addition to the constructive requirements of the vehicles of this class.

1. The earliest representation of a chariot occurs on Sumerian painted vessels of 3500 B.C.; See Oakhott, op.cit., p.21.
3. p. 139.
There are a couple of excellent illustrations of chariots at Ajanta; both occur in the later group of paintings.

The chariot in the Visvantara Jātaka (XVII) is a fine vehicle drawn by four horses. It consists of a box-like frame (kośā), mounted on two wheels having lotus-petal shaped spokes. The sides, rather high, are adorned with clusters of pearls. The guard on the front and rear are further upraised and have curved ends bearing beaded ornamentation along the margin. The guards have miniature pilasters at the corners.

In the Mṛga Jātaka (XVII) is depicted a chariot (Pl. XXVI,6) carrying the 'celebrated deer'. The vehicle, however, is not seen in its entirety. It has a box-like body, mounted on two wheels with lotus-petal shaped spokes. The exterior of the sides is divided into rectangular compartments by miniature pilasters. Of the side facing the first compartment contains hatched decoration, while the other by its side is embellished with a miniature torana. Probably similar decoration is done on

the back and front. The lower margin of the body is embellished with a running floral scroll; the upper margin has rope-pattern. The sides of the frame are crowned by miniature chaitya arches.

The most remarkable characteristic of this chariot is the rope tied to the wheel and connected to a hook (pully ?) fixed on the underside of the frame. Yazdani thinks it to be some sort of brake, a contrivance to halt the chariot whenever desired.

Water Transport - Boats and Ships

India, with 2000 miles of coastal line could not have done without boats and ships. The representation of ships on the Harappan seals and the recent discovery of a dockyard at Lothal are indicative of the naval activity at such an early date. The literary references to shipping activity are too many to detail and the maritime trade with the Roman empire and the sea-voyages

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1. op.cit., Pt. IV, Text, p.102.
2. Mackay, Further Excavations at Mohenjo-Daro, Pl. XIX, No.11.
of the Indians to colonize South-East Asia are too well-known.

The illustrations of ships and boats at Ajanta, though far and few between, range from ordinary ferries to ocean-going cargo vessels sailing to distant lands. They are as follows:

1. A simple boat, with a high stern or prow, similar to a modern ferry which is presently used for crossing rivers; it is a modest boat without mast or any other attachment and is simply to be rowed (Mahājānaka Jātaka, I). It appears to have been made of one piece of timber and used for coasting and river trade.

2. A boat (Pl. XXVI, 9) with two vertical posts which may be masts, (Simhala Avadāna, XVII). On the whole it is akin to that depicted on the 'ship' type coin of Yajñāśrī Sātakarnī.

3. This occurs in the scene showing the landing of the prince Simhala on the land of ogres (Simhala Avadāna, XVII). There are two ships of

this type, side by side. One of them is shown carrying three elephants mounted by kings while the other is carrying the cavalry. The ship (Pl.XXVI,10) has oars, with broad ends, probably attached. It is adorned with a makara-mukha on the prow; the upper margin of the body contains beaded ornamentation. The early Tamil epic Silappadikāram informs us that there were boats having shapes of animals.

The ship is shown carrying the army consisting of elephants and cavalry that too in surging oceans, and one is, therefore, forced to surmise that it is a huge sea-going vessel which might have been normally used for carrying cargo. Periplus mentions a class of ships, viz. Kolandiophonta which were "of great bulk and employed for voyages to Chryse and the Ganges."

4. A boat (Mahājanaka Jātaka, I) with a high prow and stern, both being in the shape of a fish's head. The curved lines on the body are indicative of its being made of wooden planks sewn

together. Near the prow is suspended a long oar behind which is a ladder. In the ship is constructed a pavilion, supported by four pillars and closed on two sides by curtains. Dr. R.K. Mookerji correctly identifies it as the 'Madhyamandirā' type of boat mentioned in the Yuktikālapātara which was meant for joy-rides. In the boat illustrated also the king is shown with his attendants (Pl. XXVI, 11).

Similar boats are sculptured in the Sanchi reliefs and in the Jagannath temple at Puri. And it is noteworthy that a strikingly similar boat, with modest shrine, is depicted on a seal from Mohenjo-Daro. The hut may not be a shrine as Mackay thinks; it may only be a humble structure to provide shelter from sun and rain. This would point to the survival of a very early type of boat through the millennia.

5. This is the finest and the largest ship (Pl. XXVI, 12) which is depicted in the

1. A History of Indian Shipping, p. 29.
4. Griffith's description, which is most accurate, is followed here. See Griffith op.cit., Vol. I, p. 17.
'Pūrṇa Avadāna' (II). It has a high prow and stern with oblong sails attached to as many upright masts. The jib is well-filled with wind. A sort of bowsprit, projecting from a kind of gallows on deck, is indicated with the out-flying jib, square in form like that borne till recently times by European vessels. The ship appears to be decked and has ports. Steering oars hang in sockets or rowlocks in the quarter, and eyes are painted on the bows. There is also an oar behind, and under the awnings are a number of jars while two platforms are fore and aft. Dr. Mookerji rightly identified it as the Agramandira type of vessel of the Yuktikalpatary.

This huge ship, with its cabin and masts, is undoubtedly a sea-going vessel. It should spell the doubts of those who are of the opinion that there is no representation of real sea-going ship in India prior to 10th Cent. A.D. We learn from Fa-Hien that there were merchant vessels in India carrying more than 200 passengers from Ceylon to China.

1. *op. cit.*, p. 29.
Before concluding it would be better to know certain peculiarities of the ships described above. Firstly all of them have a high prow and stern, a feature which was common in some of the earliest civilizations, such as the Sumerian, the Pre-Dynastic Egyptian, the Minoan and even the Harappan.

Secondly most of them have their prow and stern resembling an animal head. This, as already noted, is amply borne out by the literary evidence. Yet this cannot be said to be a peculiar characteristic of Indian vessels only. Similar ships existed even in the Roman empire. A frieze from a tomb of the Augustan period, has a ship with one end terminating in lion's head and also has an eye. It is not, therefore, unlikely that Roman ships, coming to India in large numbers about the beginning of the Christian era, influenced to some extent, the shapes of Indian ships.

1. Mookerji, op.cit., p.22.
2. Silappadikāram, Canto, XIII, Vs.174-80, p.197