CHAPTER V

TRANSPORT AND COMMUNICATION
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Transport and communication lines are the arteries which provide vitality to the organic growth of a region. They are the basic props of socio-economic development which represents to state of human civilization pertaining to a particular period. The social contacts and exchange of ideas and goods which are intimately associated with human life, are made possible through these lines. In fact, these lines together with the flows over them, hold together the entire spatial organization, the study of which has, of late, emerged as very significant in the discipline of Geography. While making such studies, one has to analyse the net work formed by these lines which exist in varied patterns bearing varied intensities of flow in different geographical regions. In this context, the present day geographer is concerned with the study of railways, highways, waterways, airways and pipe lines as lines of transport and wire and wireless as communication lines which are used through telegraph, radio, television and satellite techniques.

Since the beginning, man has always been endeavouring to solve the problem of transporting load and in this context he used his own body as the first means. In the Rāmāyaṇa too, Rāma is seen employing Hanumāṇa as his vehicle\(^1\). Besides, he brought Auśadhi Parvata from a distant land for revitalising Lakshmī\(^2\). Hanumāṇa is less of a God and more of a human being in the Rāmāyaṇa. We can, therefore, deduce that man himself must have been a carrier of his loads in the Rāmāyanic age. In
the present study we are, therefore, concerned with the study of means and mode of transport and also the communication lines as developed during the Rāmāyana period.

It appears that the Aryans in ancient India, were conscious of the necessity of the different forms of transport and regarded the maintenance and protection of the public highways as one of the duties of the king of the State. Men travelled from place to place from the days of their earliest existence and land routes were discovered in the course of human migrations. Rivers were also used for the same purposes. We generally find old routes running parallel to the river banks. Probably, people in those days wandered with their cattle in search of food and water along the rivers where they could easily procure these things. With the development of urban civilization, cities grew on river banks and they were linked together with other cities by land, water and air transport.

(a) **Means of Transport**

On the basis of its mode, transport can be classified into three main categories, as mentioned in the Rāmāyana:

(i) Land transport,

(ii) water transport and

(iii) Air transport.

(i) **Land Transport**

The domesticated animals such as camels, horses, oxen, mules, donkeys and elephants were used for the purposes of transportation and draft animals in the Rāmāyana period. Probably, the oxen may have been the first beast of burden.
Even today in the villages they are harnessed in the carts and ploughs, but for general movement other animals such as camels and horses have been trained due to their peculiar qualities. Certainly, the spirit and war-like bearing of the horse greatly contributed to its early adoption by man for military purposes. During the epic age, regular training was given to the horses and it is clearly indicated that the horses of Vāhlīka, Vanāyu and Kāmboja were of good breed\textsuperscript{5}. They were profusely ornamented\textsuperscript{6} and were provided with a defensive covering for the chest\textsuperscript{7}.

In comparison with the horses, other animals utilized for the purpose of transport, had merely local significance. An elephant was a war-machine or the luxurious vehicle\textsuperscript{8} of the kings of that age. In the Rāmāyāna, there are copious references to show that the elephants were part and parcel of the army in the epic age. There was an independent elephant unit at Ayodhyā and nine thousand elephants are said to have followed Bharata in his march to Citrakūta with full military accoutrements\textsuperscript{9}. Rāma asked Bharata, 'Are the forests which are the home of elephants preserved by you? And do you not feel satisfied with the number of elephants (owned by You),\textsuperscript{10}' This refers to the increasing importance of the elephants in that period. It was the duty of the king to see that every day the elephants were provided food and drink. Riding and training up of elephants constituted a part of the military achievements of a prince or warrior. In Laṅkā war Virūpākṣa and other soldiers have been delineated by the great poet as riding over the elephants on the battle-field\textsuperscript{11}. 
The strength of oxen, horses, asses, elephants as well as the wheel had provided Aryans with motive power and equipment for transport on land. As the Ramayana provides, we mention an account of various types of vehicles, conveyances and the other means of land (carriage) which were then in use. The vehicles used for carrying men and commodities were termed as Yānas\textsuperscript{12}.

**Types of Vehicles**

There were two types of vehicles\textsuperscript{13} in the Ramayanic age:

(i) Laghuyâna (small vehicles), (ii) Mahâyâna (big vehicles).

In Laghuyâna we include the Sivikâ and Sakata.

Sivikâ (Palanquin)\textsuperscript{14}. It is grouped in Laghuyâna and was primarily a royal conveyance. This was carried by professional men bearers. It is mentioned in the Ramayana that after the defeat of Râvana, Sita was brought in Sivika\textsuperscript{15}. Palanquins were found in various shapes\textsuperscript{16}. The litter or Sivikâ was also termed as Yugya\textsuperscript{17}.

Sakata (Cart). In the Ramayana age, carts appear to be the common means of transportation. Oxen and horses were harnessed to draw the carts\textsuperscript{18}. These were constructed by carpenters\textsuperscript{19}. The carts were made of wood which was abundantly available in the forests. It appears from the study that carts were commonly used by farmers only, while chariots were used by Gods, Kings and dignified persons both for civil and military purposes. In the Ramayana it is mentioned that when Viśvāmitra started from Siddhāśrama for Mithilā, he was followed by several hermits with
hundred śakatas\textsuperscript{20}. In the epic period some times it was also termed as Goratha\textsuperscript{21}.

In Mahāyāna we include the different types of rathas (Chariots) such as Aśvaratha or Nīvaratha or Vājiratha\textsuperscript{22}, Khararatha\textsuperscript{23}, Ustra ratn\textsuperscript{24}, Vyāghra rathe, and Gardābha rathe\textsuperscript{25} which were termed mainly on the basis of the animal harnessed to the chariot. In the Rāmāyaṇa, references are available to the following parts of the chariot.

1. **Aksha\textsuperscript{26}**. The axle of the car or chariot.

2. **Anukarsa\textsuperscript{27}**. A piece of additional wood fastened beneath the car for the purpose of quickly repairing damages done in battle\textsuperscript{28}.

3. **Apaskara\textsuperscript{29}**. Any part of carriage, except the wheel as explained by Apte\textsuperscript{30}.

4. **Bandhura\textsuperscript{31}**. A seat for the warrior\textsuperscript{32}.

5. **Cakra\textsuperscript{33}**. The wheel of the chariot or car. A chariot furnished with golden wheels\textsuperscript{34} is also mentioned in the Rāmāyaṇa.

6. **Kūbara\textsuperscript{35}**. The pole of a carriage to which the yoke is fixed. A Kūbara of Cat's eye jewels\textsuperscript{36} is mentioned by the poet.

7. **Nemi\textsuperscript{37}**. The rim of the wheel.

8. **Nīda\textsuperscript{38}**. The interior of a carriage where the charioteer stood.

9. **Trivenu\textsuperscript{39}**. It is pole in the front of the chariot to support the yoke.

10. **Upastha\textsuperscript{40}**. 'A secure place',\textsuperscript{41} It was meant for the driver, for Rāma is said to have caused to fall down the charioteer
of Trisirā on his seat in the chariot. Hopkins is of the opinion that the Upastha was the general bottom of the car.

11. Varūtha. A sort of wooden fence or fender with which a chariot is provided as a defence against collision.

12. Yuga. The yoke of the chariot or car.

According to shape, different varieties of the chariots are mentioned in the Rāmāyana such as in the shape of mules, cows, camels, dolphins, snakes, alligators, tortoises, fish, birds, Garuḍa, lions, tigers, boars, elephants etc. Dhūmṛākṣa (warrior) had a chariot in shape of the heads of a wolf and a lion.

According to various sizes and utility the chariots may be grouped into two major divisions:

(i) Yāna Ratha (general chariot) and
(ii) Sāgrāmika Ratha (war chariot).

Yāna ratha further may be grouped in the following categories:

(a) Auvārāna ratha (Utility chariot). This was used not only for carrying harvested corn but passengers also.

(b) Mahā ratha (parcel-cum-passenger chariot). It was used to carry attendants, passengers as well as supplies. It was a huge and spacious chariot.

(c) Puspa ratha. It was a decorated chariot specially used in marriage ceremony, festival and public gatherings and for royal movement.
(d) **Kāmaga ratha**. It was a fast-moving chariot specially used by the kings.

(e) **Brahma ratha**. It was used for conveyance by the brāhmaṇas.

(ii) **Sāṅgrāmika ratha** - A war chariot was called Sāṅgrāmika ratha and was distinguished from other varieties of chariots. The main qualities of a war chariot were its strength and spaciousness. The chariot of a knight was crowded with quivers, arrows, spears, swords and clubs studded or tipped with iron. Atikāya’s chariot, drawn by a thousand horses and driven by four charioteers, carried twenty quivers, ten dreadful bows and eight bow strings and he was in the midst of whetted pikes, very sharp and flaming spears, lances, javelins and sāktis placed in his chariot. Bows with golden backs ranged on every side in his chariot. Hanging on its sides, two flaming swords clearly ten cubits long and provided with hilts measuring four cubits were found casting their splendour on his two sides.

Weapons were arranged in the war chariot in an orderly manner so that the knight may be skilful to speedily lay his hands upon the thing required. It appears, there was a proper place for each kind of weapons. ’The swords’, it is said about Atikāya’s chariot, ’were placed in the sides’ and in Aksha’s chariot, the sākti and tomara had been placed in their respective order.

In the Rāmāyanic age the chariot of a knight was prodigally decorated. It was richly laid in gold and precious stones; had gold bells echoing sweet tinkle and an umbrella
of one hundred gold ribs and a gold pole. The chariots also had a pennon in its top which was perhaps the emblem of the Knight.

Usually four horses were harnessed to the war chariot but occasionally chariots were driven by eight horses too. Akshā marched against Hanumāna, mounted on the chariot in which eight swift and excellent horses were yoked. Rāvana in the war time ascended on the swift going formidable chariot, having eight horses yoked to it. The horses were decked with gold ornaments and white whiskers in the epic period. The horses and mules of the chariot were controlled by the charioteer by means of the reins and the whip, and they were also supplied with protective coverings (beast plates) made of gold. Besides, the Rākshasas also harnessed the Kharas (mules) to their chariots. It is said that Rāvana had a chariot in which thousand mules were yoked at a time. Specifically, four sharp toothed tigers are said to have been yoked to his chariot by Indrajīta.

Speed was the chief demand of a chariots soldier and naturally this depended upon the excellent quality of the horses. It is clearly indicated in the Rāmāyana that the horses of Vāhīka, Vanāyu and Kāmboja were of good breed. Horses were trained in turning (quickly) to the right and left and were capable of enduring the burden of the heavy loads. It is evident that during the Rāmāyanic age the horses were regularly trained for the skilful movement.

It shall not be out of place to mention here of the chariots obtained by 'long continued asceticism' or 'as a result
of offerings properly made into fire'. Prince Aksha is said to have "sailed out ascending a car, obtained with long continued asceticism, embellished with a net of glowing gold, furnished with pennons; having a standard studded with gems, nicely yoked with eight excellent steeds having the fleetness of thought, incapable of being overpowered either by celestials or Asuras, competent to course over uneven ground having the lustre of lightning, sky ranging, completely garnished, equipped with quivers, with swords fastened to the banners in eight directions, with darts and lances arranged in proper places, splendid with every object in full measure; bearing golden threads, wearing the brilliancy of the sun and moon, and possessing the effulgence of the sun". Indrajīta having offered oblations to the fire and gratified the gods, ascended an excellent and splendid chariot capable of going out of sight during the war. This chariot was drawn by four very strong and inviolable horses and was furnished with all decorations and arms. Such chariots might either be ascribed to the māyā of the Rākshasas or might reflect the aspiration of a chariot warrior.

Roads

Roads as a means of transport arrogate vital importance in entire process of growth. The use of carriage gradually brought about construction of roads on a level surface. Ancient Indian planners fully realised the importance of roads for the progress and security of the State. Recent archaeological discoveries have divulged that the people in pre-historic times were fully aware of the importance of roads.
In the Rāmāyanic age when the whole country was divided into many Janapadas, no big roads running throughout the length and breadth of the country could have been in existence, however, we find that routes were connected from state to state. From the study of the Rāmāyaṇa, we can casually understand that Ayodhyā, the capital of the Kosaladesa, was connected by roads with the Aṅgadēśa, Mithilā, Girivraja, Śringaberpura and Mathurā and these roads were maintained in fairly good condition so as to make possible a chariot-ride. In the description of the towns such as Ayodhyā and Lāṅkā, we are told that the rājmārgas (state highways) were daily cleaned and sprinkled with scented water and were provided with lamp posts.

The Rāmāyaṇa reveals that means of transport in those days were in a quite developed stage. There were five types of roads – vīthi (lanes), rathyā (streets), uprathyā (by-streets), mahāpatha (roads) and rājmārga (national highways). They were classified according to use and destination. For example, rathyā means the road in which chariot may run easily. In the towns, capitals and forts, there were roads for chariots, roads for beast of burden and for general traffic. The cities, besides having the main roads, carts and cattle-tracks and foot-paths, also had roads leading to the villages.

In the Rāmāyanic age probably roads were maintained by signs, milestones, cross roads and curvings. The street thronged with edifices, squares (catuska), crossings (catuspatha), and quadrangles (Śringātaka and catvara) were maintained under
the traffic regulation. At crossings daisies were planted. There were rows of white mansions resembling autumnal clouds, having golden pillars and net work.

The classification above shows that town-planners of the Rāmāyanaic age had an idea of the importance of the street planning but we have no direct informations to hand about the alignment of roads and their widths. It was the duty of the king to construct the roads according to the requirements of the city or villages. It is evident that streets and roads of the epic age were arranged and planted according to rectangular chess-board (catuspatha or catvāra) of street planning. The rectangular street planning of the ancient Indian times holds recognition and validity today also because the rectangle is the most convenient for block building.

Roadways Engineering

The roadways engineer or civil engineer is mentioned in the Rāmāyana. In the epic age he was designated as Shilpi or Mārgasodhaka. Bharata ordered the Shilpis to prepare new road for the forest and they leveled the uneven paths and cleared forests to make new roads. It was also the duty of the engineer to construct the bridge over the streams and to level up the low lying lands. Surveyors were termed as Sūtrakarma-visārada. Stone chips were used to metal the road. It appears that there was a specific department, akin to modern P.W.D. having skilled-men, Mārgasodhaka, Sūtrakarma-visārada and several others and also having various implements required in road construction.
The department also had the services of Bhūripadeśajña, Khanaka, Yentraka, Sthēpati and Yentrakovida who had a fair knowledge of soil and nature of the land. Such an expert knowledge was also utilized in the construction of bridges. In Lanka, there were four extensive draw-bridges across the moats, which were equipped with numerous engines.

The most striking point in support of the efficient skill of the Civil Engineering department of those days, was the construction of the bridge across the ocean to Lanka. It indicates that even in those days there was an engineering branch in the army to examine the routes for their easy movement. Nila is described as the commanding head of the engineering branch of the army and Nala the superintending engineer. Nala started to plan the construction of the bridge (Mahāsetu) of hundred yojans in length. Mechanical instruments or cranes were used for uprooting and transporting the unwanted trees and boulders to the seaside. The artisan took the plumb line (sūtra) and measuring rod (daṇḍa) to lay out the rocks in a straight line so that the bridge should not bend and they undertook the bridge to build with almost responsibility and skill. This makes clear that cartography and surveying had reached a high standard of dexterity in those days.

From the study of the Rāmāyana, it is evident that people were fully competent to construct well-developed highways. Their knowledge of town planning and architecture yielded a regular service for transportation of goods, both inland and abroad.
THE RĀMĀYANIC INDIA

CHIEF LAND & TRADE ROUTES

— PRESENT INTERNATIONAL BOUNDARIES

SEA DURING THE RĀMĀYANIC AGE BUT NOT NOW

KILometres

100 200 300 400 500

Pūrva Sāgara

— TRADE ROUTES

ROUTE FROM AYODHYĀ TO LARkā TRAVERSED BY RĀMA
ROUTE FROM AYODHYĀ TO MITHILĀ TRAVERSED BY RĀMA
ROUTE FROM GIRVRAJA TO AYODHYĀ TRAVERSED BY BHARATA
ROUTE FROM AYODHYĀ TO GIRVRAJA TRAVERSED BY THE MESSAGERS

(DaKṣīna SamUDRA)

72°E 78° 80° 84° 86° 92°E

FIG. 5.1
Chief Land Routes

Of the several land routes mentioned in the Rāmāyana, we mention below the following land routes chiefly traversed by various parties and kings (Fig. 5.1).

1. Route from Ayodhyā to Angadēśa traversed by Daśāratha.
2. Route from Ayodhyā to Mithilā (Janakapura) followed by Rīṣi Viśvāmitra accompanied by Rāma and Lakshmana.
3. Route from Ayodhyā to Mithilā journeyed by Daśāratha.
4. Route from Ayodhyā to Kekaya.
   This route can be divided into two branches:
   (a) Traversed by Messengers, and
   (b) Traversed by Bharata.
5. Route from Ayodhyā to Laṅkā.
   This route can be divided into two parts:
   (a) From Ayodhyā to Panchavati, and
   (b) From Panchavati to Laṅkā.
6. Route from Ayodhyā to Vālmīki Śrama.
7. Śatrughna's expedition against Lavaṇa from Ayodhyā to Madhubana (Madhupuri).
8. Routes from Praśravāna Giri to northern, western, eastern and southern world traversed by search party of Sugrīva.
9. Route from Ayodhyā to Citrakūṭa journeyed by Bharata.
10. Route from Ayodhyā to Gandharva nagara traversed by Bharata.

(ii) Water Transport

Civilization saw its beginning in the lap of the river basins which provided not only fish as food but also provided
to walk. The waves and ripples made the human life more adventuresome. Fallen tree trunks in the river were the guide lines of the primitive men for water transportation. They then used floating boats with the help of long poles in the direction, they desired to move.

Man had conquered water at a much earlier date than has been supposed hitherto. Transportation by water is so cheap that it carries a vast volume of trade since river or ocean is a readymade highway with least resistance and unencumbered with the cost of construction, maintenance and supervision. Moreover, water routes require less human labour and the given load requires few men. So, it is clear that before an organised system of roads, the waterways must have been the earliest means of passage and transport and the chief line of transport between different settlements.

The great land mass of the Indian sub-continent is sea-girt on the east, west and south and has a large number of harbours situated all along its 5700 km long serrated coast line. Mostly it is believed that the inhabitants of India lived in isolation and were unacquainted with sea voyages. But a careful search into the Vedas, confirms that the Aryans went into the open sea boldly\textsuperscript{106}. The recent archaeological discoveries have also brought to light the actual remains of brick-built docks, wharfs, jetties (landing plateforms) and warehouses ranging in date from 2300 B.C. to 300 A.D. These structural remains bear ample testimony to the skill of Indian sea-men and engineers in building ships and docks and corroborate tradition and literary evidence\textsuperscript{107}. 
India’s Maritime Relations with Different Countries of the World

The Arabian sea, Ratanakara of the ancient Indians, played a prominent part to connect India with the western countries. Mrs. Rhys Davids writes, ‘the early commerce between India and Babylon was largely via the Persian Gulf’. Rome and Egypt were linked with India through the Red Sea. Indian teak wood is believed to have been found in the Babylonian remains of the third millennium B.C. In the Vedic age west Asian countries were culturally a part of India. The Boghaz Koi (Iran) inscription of the 14th Century B.C., is a remarkable evidence of a very close cultural contact between India and Western Asia (Fig. 5.2).

India’s maritime trade with East and South-East Asia also started in very early times, i.e. first millennium B.C. Very important evidence proving contact by sea was brought to light through the archaeological discoveries by Prof. Beyer mostly in the province of Rizal in the Phillipines during 1926-30.

The Rāmāyana had a number of versions not only in India but also outside the country’s frontiers. The Aryans sailed to the South-East Asian countries not only in search of new markets but also for spreading culture. These immigrants continued to have faith in their epics, we see the Rāmāyana scenes nicely carved on the Śaiva temples in Java and Cambodia.

Very little is known of India’s contacts with Africa in ancient time. This does not mean that the contacts did not
exist. As mentioned above, the Indian Ocean, from the remote past, has been the hub of sea-faring activities. According to Kashinath Vaman Lele, there are references in Indian literature which show the knowledge of Africa in Vedic and post-Vedic times and, probably, the existence of a close link between India and Southern Rhodesia. He mentions that in the 'Aitreya Brāhmaṇa', there are references to Maṇār (मणार) or Mashanaland in the context of its gold and elephants. He further mentions that there is a reference to the Jhalls (म्हल्ल) in the 'Sahasra Purāṇa', along their physical characteristics. This tallies very much with the physical characteristics of the 'Zulus' of Africa. Sharma is of the opinion that Egypt means, the mixture of the races of Aryans, so it became Egypt.

The arrival of Columbus in 1492 A.D. on West Indies neither created a new world nor discovered one. Many centuries earlier, Aryans had gone there across the Bering Strait. Robert Heine-Geldern and Gordon F. Ekholm are of the opinion that Indian and South-East-Asian culture influenced ancient America through human migrations across the Pacific. According to Singhal, man first came to America from Asia towards the end of last glacial period between 20,000 and 10,000 years ago across the Bering Strait. He has also suggested that there may be a route from Aleutian islands. It is believed that ancient Indian adventurers and merchants were attracted to America due to precious metals, stones, gold and pearls for which a great demand had grown up in the centre of ancient civilizations. The Rāmāyaṇa also furnishes the focus on it when Sugrīva ordered his
commanding general and thousand warriors to search out Sītā in the east. In his instructions to them he has mentioned several places and seas, giving an idea of the geography of America.118

Thus, we can safely conclude that there were trade relations between India and various countries of different continents. The Vedic literature proves the early existence of complete navigation of the Indian Ocean and of the trading voyages of the Aryan.

**Navigation in the Rāmāyanic Age**

The Rāmāyana throws ample light on the navigation. It says 'the rivers empty themselves in the ocean which is the lord of water.119 H. Jacobi120 adduces argument to prove that the Rāmāyana does not reveal the knowledge of Sea Voyage. According to him, only boat and river navigation were known to the people in the Rāmāyanic age. But Tripathi121 explains 'Mahānauriva Sāgara'122 or Sāmudrāṅ123 (ocean traders) in this connection to prove Sea Voyage. Mahānau (महानौ ) clearly implies a sea going ship (a very big boat). According to him it is further corroborated by the following arguments124.

(i) Dr. Bulher is of the opinion that there were maritime activities between India and Mesopotamia in 8th Century B.C.

(ii) Dr. A.S. Altekar evinced clearly from the Baudhāyana Smriti (5th Century B.C.), Sussondijātaka and Suppārak jātaka that India had ocean-borne trade in eastern and western directions circa 8th century B.C.
(iii) In the time of Kautilya (4th century B.C.), ocean navigation and coastal shipping both were quite satisfactorily developed.

(iv) The Rāmāyaṇa mentions Yavanesa\textsuperscript{125} and it clearly indicates that the Indians had direct contact with them through ocean. In this connection, we must remember that Alexander the Great returned from India by an ocean route\textsuperscript{126}.

(v) Mention of the Yavadvipa\textsuperscript{127} in the Rāmāyaṇa proves the trade connection by ocean.

(vi) India had direct maritime contact with Egypt in the 2nd century B.C.

(vii) Dr. Van Der Sleen, Director, Royal Anthropological Institute, Holland, has proved that Circa 2000 years ago Indians went to the coast of Africa (Zanzibar) and traded there with glass beads made in Bhraprapura (modern Hapur), U.P.

(viii) Ashoka's rock edict XIII indicates that the great kings had foreign trade relations.

We frequently find references to merchants, merchandise and markets\textsuperscript{128}. The Rāmāyaṇa also mentions the travelling companies of merchants (चिण्डाज्ञे दूरगामिनः)\textsuperscript{129} and large boats laden with vendibles\textsuperscript{130} which indicate the presence of foreign trade. In the epic we come across a description allusively to merchants on a voyage for trading purposes but who were overtaken by a storm or a whirl wind in mid-ocean\textsuperscript{131}. 
The Rāmāyaṇa further displays that the internal navigation was in a quite developed stage. The big rivers of India are mostly navigable and so local trade must have been carried through them. The Rāmāyaṇa furnishes many instances. Rāma, when banished to the forest by his father, crossed the Gaṅgā in a boat and met Bharadwaja for necessary guidance. Viśvāmitra accompanied by Rāma and Lakshmana, started from Ayodhyā to Janakapura and crossed the river Gaṅgā by boat. Bharata and his followers were ferried across the Gaṅgā by the fishermen. Sugrīva directed his monkey leaders to go to the different islands by boats and search Sītā in there cities and mountains. The large boats of the epic age were provided with automatic machinery and all kind of weapons of war. The boats were distinguished by flags and had large bells. The cabin of the boat was decorated with white rugs and distinguished by the sound of festive music.

The Rāmāyaṇa mentions Nau, Nāva and Plava. Nau stands for simple boat for crossing rivers where as Nāva stands for big boats or ships. Nau was simple in construction and pliable only by oars. Probably, the people of the Rāmāyanic age also used large ships to cross ocean and sea. Another type of boat was called Plava which was perhaps a war ship or only bark or raft to cross the river. Pota was perhaps termed for fleet. Svastika was royal boat (excellent boat bearing the mark of Svastika) and it was manned by trustworthy sailors. It had to be tagged on to another boat evidently for the safety of the king. As the boats were meant to carry a huge host of
soldiers, men and women, animals, chariots and bullock carts, they would have been very large and capacious like ships\textsuperscript{145}. Fighting boats are also mentioned in the \textit{Rāmāyana}\textsuperscript{146}.

**Ship Building**

The mechanical science of ship building was skilfully done in ancient times. The ship builders had a good knowledge of materials as well as the varieties and properties of wood. Teak was used for this purpose at Lothal in 2200 B.C. According to Ramesh Rao and others, teak grew in abundance in the Panchmahals of Gujarat in the Proto-historic period. Besides, other varieties were imported from the west coastal ports of the south India\textsuperscript{147}. Literature concerning ship building, their size and shape in the Rāmāyanaic age is significantly lacking but the epic alludes that the qualities of wood were investigated, technicalities of construction were perfected\textsuperscript{148} and it may be allusively said that this art was studied as a separate branch of science.

Lastly a string of nautical terms support the developed science of ship building and navigation.

(i) \textit{Aritram} (Oar) – In the Rāmāyana it is called Sphyā\textsuperscript{149}. It means boats or ships propelled by oars.

(ii) \textit{Karna}\textsuperscript{150} – The helm or a rudder of a ship.

(iii) \textit{Karnagrāha}\textsuperscript{151} – Driver.

(iv) \textit{Karnadhāra}\textsuperscript{152} – Head pilot – helmsman who operated the rudder and steered the boat.

(v) \textit{Nāvika}\textsuperscript{153} – Carman or an ordinary sailor.
(vi) **Dēśā** - Boatman - the other staff of the boats.

(vii) **Keśāvarta** - A fisherman who was navigator in the river.

**The Harbours (Pattanag) of the Rāmāyana Age**

The necessity of trade led to the growth of many commercial towns and sea ports in India. According to Mayamata, 'a pattana is a town abounding in articles imported from other islands, alive with all classes of people, a land of commercial transactions in the shape of sale and purchase ........ situated in the vicinity of a sea-coast, lying lengthwise along it'. In the epic period, the harbours were also termed as Thīrthas.

India's great rivers such as a Indus, Ganges, Yamuna, Brahmaputtra and Narmada are navigable throughout the year. The trade centres on the bank of the different rivers had direct water route for south-east Asia, East Asia, Middle East and other countries on seashore. The main trade centres of the Rāmāyana period situated along the river banks were, Ayodhyā, Kanakhala, Hastināpura, Kāmpīlya, Kauśāmbi, Madhurā or Madhupura or Madnapuri, Mēhismatī, Prāgbaṭanagara, Pratiṣṭhēnanagara, Sānkhāya, Vārāṇasi and Viśāla.

**West Coast Ports**

Lothal was the most important port city synchronising with Harappa and Mohenjo-daro of the golden days. After the fall of the Lothal (1900 B.C.), Kuśāvatī, the capital of Kuśa, son of Rāma, probably had her trade contacts with Egypt and Middle East sea ports in the epic age. According to the description of the Rāmāyana, Dey has identified Kuśāvatī with
modern Dabhoi, 38 miles north-east of Broach in Gujarat. In
the Rāmāyana, Sugrīva is described as having sent armies to the
four quarters of the globe in quest of Sītā. He has mentioned
several places of the Western India such as Saurāstra,
Candracitra and Vāhlīka\textsuperscript{164} together with the entire tract of
land along the western ghats. Besides, at the time of sacrifice
performed by Desāratha, the kings of Saurāstra, Sauvīra and
Sindhu\textsuperscript{165} were also invited.

Cunningham\textsuperscript{166} has identified Sauvīra with Vadari or Eder
in South-West Rajputana at the head of the gulf of Cambay, the
Ophir or Sophir of the Bible. It was the main trading centre
during 1015 B.C.

Murachīpattana\textsuperscript{167}, Gokarna\textsuperscript{168} and Vaijayanta\textsuperscript{169} are also
mentioned in the Rāmāyana. They were the important trading posts
in the western coast. Murachīpattana (Mouziris of the Greeks)
is Muziris or modern Cranganur\textsuperscript{170} sea-side town 32 Km north of
Cochin. Exports from here comprised of pepper from the neigh-
bouring area, fine pearls, silk, transparent stones, sapphires
and tortoise shells etc. Muziris imported coins in great
quantity, topaz, antimony, coral, crude glass, copper, tin, lead,
a little wine and wheat according to the requirements of the
sailors\textsuperscript{171}.

Gokarna is identified with modern Gendia\textsuperscript{172} or Gokarn,
a town in North Kanara (Karnataka State) District, 30 miles from
Goa and contains the temple of Mahādeo Mahāvalesvara established
by Rāvana. Kālidāsa also mentions Gokarna as a place of
pilgrimage in South India. Gokarna had a longer history and must have been a trade centre in the epic age for mineral products of Deccan plateau and the forest products of the Western Ghats. Vaijayanta or Vaijayantī has been identified with modern Banavasi and it was also the commercial port in the Rāmāyaṇic age. It was the great capital of Kadambas and one of the wealthiest cities of India in the time of Ashoka.

**East Coast Ports**

So far as the east coast is concerned, we have much reliable evidence in the Rāmāyaṇa but the poet has mentioned only the Janapadas of the southern and eastern India i.e. Mekhala, Utkala, Dasārṇa, Vaṅga, Kaliṅga, Kaushika, Āṇdhra, Pundra, Cola, Pāṇḍya and Kerala. In contrast to the west coast there was naturally restricted development of large harbours in the east coast. Besides, the inhabitants of the east coast region had vigorously participated in the over seas trade, particularly in South-East Asian realm and had succeeded in putting the stamp of Indian culture on far-off lands.

Two ports in the east coast which are significant from the commercial point of view during the epic age, were Dasārṇa and Kabātapandyanām mentioned in the Rāmāyaṇa. Dasārṇa was a territory to the south-east of Madhyadesa in the Rāmāyaṇic age and it was connected with Mekhalas and Utkalas where Sugrīva sent his army in search of Sītā. The Purāṇas also associate the people of Dasārṇa country with the Mālavas, Kārūsas, Mekalas, Utkalas and Nīsādas. According to Periplus (Dosarene) it was
the region east of Masalia (i.e. the country around Masulipatam in Andhra). According to Sircar, Dosarna (of Ptolemy) is a modification of the Indian name Tosala (the same as Tosali or Tosala) identified with modern Dhauli in Puri district.

Kabātapāṇyānām clearly shows the gateway of the Pāṇḍya territory. Kabāta must undoubtedly refer to a town or a locality in Pāṇḍya country. Kabātapuram or Pāṇḍya-Kabātam is mentioned in the Arthasastra, as a place where pearls can be obtained which clearly points out that it was definitely on the seashore. Thus, it may be identified with Colchi (of the Periplus) or Kolkai or Korkei. Kolkai derived its name from Tamil rest Kol-to pay and became an important emporium of the time. Colchi is noted for its pearls. (Fig. 5.3).

Apart, the poet has also mentioned the South-East Asian Countries such as Yava (Java), the islands of Suvarna and Rūpyaka (East Indies Archipelago) and so many countries and seas of the East Asia. This clearly indicates the quite accurate knowledge of sea-faring activities of the Aryans. Not only this, the poet has also mentioned a port of the Middle East. According to a legend of the Rāmāyana, Varuna, who was supposed to be the regent (digpāl) of the western world and also lord of the oceans and rivers, built a city called Asmanagara, which is identified with modern Smyrna or Izmir along the western coast of Turkey and has been a great port of call from times immemorial.

From this it can be easily inferred that the epic provides information about quite developed stage of sea-faring and maritime
activities. The people of the Ramayana age acquired the knowledge of the science and art of navigation through theoretical and practical trainings.

(iii) Air Transport

Air transport which has the advantage of fast speed both over land and sea, has acquired great importance specially in the 20th century. Though different forms of transport are parts of an integral system which has developed gradually, yet air transport has a special role to play in the globe from earliest times to date. Scientists of U.S.A. and Soviet Union have successfully planned inter-planetary flights to Mars and Venus in last decade and scientific knowledge has made it possible for people to fly to the moon and Mars. But air transport can not be regarded as a phenomenon of the modern times alone. The name of the Veda is proved even in this sphere and several hymns of the Rigveda give fullest indication of the development of the means and methods of air transport in ancient India. The Aryans have developed the technique and desirability of the Vimana in the Vedic period. In Sanskrit 'विमान' means 'the bird' and 'मान' means 'likeness' or 'resemblance'. So Vimana means like a bird which may freely move in the sky. There is a reference in the Rigveda that Indra had a vimana of horse shaped named Hari, so Indra is called 'Haryesva' or Harivahan. Bhraspati had also a vimana of cow shaped termed as Visvarupa. There are direct references about vimanas and their types in the Rigveda which clearly indicate the knowledge about air transport and fast speed of vimanas in high sky.
The Rāmāyanā indicates that air transport was well-known in those days, though there is no detailed description of the development of air routes in the country. The Rāmāyanā mentions the vāyumārga and vāyupathā clearly which are related to air transport.

Puspaka vimāna was too well-known in the epic age. Hanumāna, dūta of Rāma, crossed the ocean by his plane which was charming and adorned with designs of lions, elephants, tigers, birds and serpents. Reaching Lekhā in the palace of Rāvana, Hanumāna saw a beautifully made aerial car full of splendour, swan shaped and was decked with numerous precious stones, bearing the name of Puspaka, derived from the word 'Puspa' (a flower), capable of travelling long distances, enjoying an excited rank among the foremost of aerial cars. Airs made of cat's-eye gems, fashioned of silver and corals, lovely serpents made of various jewels figured there. In Puspaka elephants with snakely trunks and covered with phylaments (of lotuses) were engaged in offering worship to Goddess Lakṣmī with lotus-petals held in their trunks and an image of Lakṣmī too had been fashioned with graceful hands and holding a lotus in her hand. The Puspaka was rendered picturesque by gems and jewels and distinguished by the structure of lattice windows of highly refined gold and made by Viśvakarma himself according to specific models which moved swiftly as the wind and following the mind of its master. On the basis of above description it can be remarked that people of the Rāmāyanic age knew the techniques of construction of different types of the vimānas.
Types of Planes

According to utility, the poet has classified the planes into two groups, i.e., Ṛmaśākara and Nāgarakāra.

(i) Ṛmaśākara\(^{190}\) - It was a swan-like plane used specially by kings, Devas and semi-divine races. Puspaka was provided with the image of swan.

(ii) Nāgarakāra\(^{191}\) - It was a big plane used by celestial nīsīs, Ārddharvas, Yaksas.

Besides these, Śri Pāl Singh\(^{192}\), in an essay has clearly mentioned that Saṁpāti was not a vulture but a triśura vimāna of superior quality which was capable to run in the sky, water and land and possessed high velocity war apparatus of excellent quality. He has further explained that mainly due to its Saṁpāti type of flight, it was termed as Saṁpāti. The Rāmāyana\(^{193}\) mentions Saṁpāti as a vulture who travelled from the earth to the sun. In fact, a vulture can fly from an island to another island but not from a planet to another planet. Probably, it was used for space research and was launched from Kailāsa mountain. Speedily rising above when it reached below the path of the sun, its wings were badly burnt due to the heat of the sun and consequently it fell down on the Vindhyān ranges. This means that greater care had been taken in selecting and deploying the planes for space research targets.

Air Routes - In the field of national and international air routes, India had made good progress in the epic age. Air services were available from Lāṅkā and Ayodhya. From the study of the
Rāmāyana, we come to the conclusion that there were airports in the big cities and they were connected with international air routes. The important air routes which are mentioned in the Rāmāyana are (Fig. 5.4).

(i) Lankā - Kiskindhā - Citrakūṭa, Bharadvaj Āśrama - Ayodhīya.
(ii) Lankā - Manimayī city - Āśmanagara - Lankā.
(iii) Lankā - Māhīṣmatī - Kiskindhā - Lankā.
(iv) Lankā - Himavāna, Meru - Kailāsa - Lankā.
(v) Ayodhīya to four cardinal points, Vindhya ranges, Agastya Āśrama - Ayodhīya.

Rāma's Journey by Puspaka

Rāma, having achieved his objective in the battle against Rāvana, asked Viśādhara to bring quickly the Puspaka vimāna so that he might reach back Ayodhīya in the shortest possible time as Bharata was anxiously waiting for his return and living a life of austerity and negation. The air car (vimāna) was wrought in gold and flew with the swiftness of the wind. Rāma in ascended that peerless vimāna with Ṛti accompanied by his valorous Bowman and brother Lakshmana. The vimāna was spacious enough to provide seats to all the lieutenants and companions of Rāma comfortably and without overcrowding. Puspaka, originally belonged to Kubera and it was sent back to him by Rāma after he had reached Ayodhīya.

Apart, Rāma journeyed through Puspaka from Ayodhīya to four cardinal points up to Vindhyā ranges. He also went to Agastya Āśrama where he stayed for one night. There after, he
travelled for Ayodhya. It is a clear proof of the use of the planes for going to great heights and long distances. In this connection it should be remembered that it was the duty of the king to look after the welfare of his subjects and ensure proper administration of the territory under his control. It can be, therefore, inferred that these vimānas were used by the kings for personally supervising the state affairs.

**Rāvana’s Journey**

Rāvana, the king of Lankā, too travelled through Puspaka from Lankā to Himavāna and the domain of Yama (in south probably Antarctica continent). Besides, he reached Bhogvatī (ruled by Vāsukī, the ruler of Nāgas) through vimāna, subdued the Nāgas and went to the city of Manimayī (made of gems) inhabited by Nivātakavachas. There he stayed for one year, enjoyed pleasures and duly learnt a hundred conjuring tricks (Māyā) after carefully observing them.

Nāgloka, the country of serpents, also known as Rasātala where Rāvana travelled, is the modern tropical areas of America. In Mexico Maya civilization was in existence in the early period. The Mayas at Yucatan were also civilized as ancient Indians and probably here Rāvana learnt a hundred conjuring tricks which is also termed in Sanskrit as Māyā.

From Rasātala, Rāvana air dashed in search of the city of Varuṇa and reached Aśmanagara which is identified with modern Smyrna or Izmir of Turkey. This region was inhabited by Kālkeyas, Devas, Gandharvas and Dānavas and Rāvana is described
to have collected the virgin daughters of the Ṛgvas, Gandharvas, Daityas and Dānavas. The poet's description of the daughters203 racially coincides with the modern Mediterraneans (fair complexion with reddish tinge like Europeans). So, as described in the Rāmāyaṇa204, the countries of Gandharvas and Dānavas lie between the modern Persia to Mt. Ararat (Turkey) and Egypt205.

Besides these, Rāvana with his ministers travelled in Pusapaka from Lekkā to Māhīsamatī206, ruled by Mārtavīryārjuna, the Hānaya king. Māhīsamatī is identified207 with modern Mahesavara, situated on the right bank of Māndāl forty miles to the south of Indore. From Māhīsamatī, Rāvana flew over the entire globe and en route reached Kiskindhā ruled by Ṛṣi208. Āli too had a fast moving plane in which he travelled with Rāvana209.

The Rāmāyaṇa also describes the aerial cars of different gods i.e. Kubera, Yama, Indra, Varuṇa and Brahmā etc. and of great sages210. In this aerial car they travelled to perform a sacrifice or to attend any other business of their interest211. Occasionally, we read that people of the epic age were also very fond of celebrating picnics either in gardens or on hills through plane. Mandodarī, with her husband Rāvana, roamed in an aerial car on Mt. Kailāsa, Mt. Mandara, Mt. Meru and in the grove known by the name of Caitraratha (belonging to Kubera and named after Caitraratha, the king of Gandharvas who planted it) as well as all celestial gardens and various lands212.

(iv) **Transport Corporations**

The economic life of ancient India evinces a developed state of co-operative activity which inspires the formation of
various agencies for mutual assistance. The sārthe stands for the ancient transport agency not only inter state corporation but also covered the foreign countries. Amerkosa defines sārthe as a caravan - 'सार्थे हजन वृद्धम्'²¹³.

Vedic literature indirectly mentions the transport corporations. The general manager of the corporation was called Rathaspati²¹⁴. The Rāmāyana mentions the term sārtha²¹⁵ only once which indicates about the transport corporation which was working in that period. There were also other forms of corporate organisations besides sārtha. They were mainly srenī and sīgama.

The srenī

The term srenī which occurs very frequently in the Rāmāyana, suffered so much denunciations at the hands of reconcile scholars that some commentators of the Rāmāyana take it in the literal sense of a 'row' and connot to it as an 'assemblage of the town people or subjects' (अजा समूहः या नगरवासी समूहः)²¹⁶. The Kalyāṇa Kalpataru and Tilaka Līka seem to assign a technical sense of this term and explain as 'नाना नाटीय सेवा', i.e., 'association of men of various castes²¹⁷.

The trade and industry of the country during the Rāmāyanaic age were characterised by highly developed organisations. The institution called srenī was a corporation of men following the same trade, art or craft belonging to the same or different castes and resembled the guilds of medieval Europe. Almost every important business and trade had its own guilds which laid down its rules and regulations for the conduct of members with a view
to safeguard their interests and these rules were valid in the
eyes of law. Each śrenī had a definite constitution with a
President and a small executive council and next of the Śrenī was
an important person in the court of a king. The Rāmāyaṇa provides
ample information with regard to the structure and function of
these Śrenīs in the epic age.

The Rāmāyaṇa clearly mentions that the mahāyas (chiefs)
of the Śrenī, on the occasion of the royal function, were invited
by the ruler to participate in the ceremonies. The Rāmāyaṇa gives a long list of artisans and merchants who accompanied
Bharata to Citrakūṭa as he went to persuade Rāma to return to
Ayodhyā. Later, at Citrakūṭa, the words of Bharata clearly
allude to the presence of Śrenīs among the assemblage. These
references undoubtedly ratify the presence of guilds in Ayodhyā
and also affirm that they were recognised by the rulers.

The Nigama or Naigama

Similar in nature with the Śrenī, was another organisation
in the Rāmāyaṇic age, known as Nigama or Naigama. Indeed,
the Nigama appears to be an offshoot of the Śrenī. The Nigama or
Naigama, both the words are mentioned in the Rāmāyaṇa. Technically,
the terms Nigama as well as Naigama adhere to a 'Corporate body'
and thus, the word Nigama may mean a corporate body of merchants
or an individual member of such a body. Jaiswal has explained
that Nigama is the association or guild of the city merchants.
In Jātakas period, a difference is evident in the organisation
of the artisans on the one hand and the traders and merchants on
the other and the latter contrived themselves into an independent
body with the designation Nigama or Naigama. It is also notable that the constitution of Nigama subsisted on the wealthy and cultured people of the society and it had a wider field of activity having greater powers

The author of the Rāmāyana has referred to Nigamas more than he has referred to the Srenīs. The commentator of the Kalyāṇa Kalpataru, C.L. Goswami is somewhat ambiguous in explaining the world Nigama and seems to be oblivious of its technical character. On the one hand he calls it in Uttarakānda, 'a group of Vedic Scholars' or 'brāhmaṇas well-versed in the Vedas', and on the other in Ayodhyākānda, he terms it as a 'mercantile community', or 'a guild of merchants'. The latter interpretation seems to be correct. In fact, as noted earlier about the Srenīs, the Nigamas also delighted in certain judicial powers and their representatives had a right to be consulted by the monarch in matters relating to them.

In the Rāmāyanic age, the organisation of the Nigamas was perhaps of the same character as that of the Srenīs and it is proved from the fact that like the Srenī-mukhyas, the Rāmāyana also refers to Nigama-mukhyas. There is also a mention of the Nigama-Vriddhas, who attended the Rāma’s court along with Kulīnas (noble descent) and this evidently suggests that experienced people fully conversant with the rules and conventions of the Nigama, were appointed to present the organisation in the king’s court.
Moreover, the Rāmāyana displays that the Nigamas enjoyed a very high status in the society and commanded great respect from the kings. After Rāma's departure to the forest, Dasaratha upbraided himself for having hastily acted without taking counsel with his well-wishers, ministers and the Naigamas. Rāma invited, among others, the Nigamas for deliberation when the brāhmaṇa, whose son had prematurely died, was accusing him of mal-administration. Like the Śrenī Mukhyas, the Nigamas also participated in the coronation ceremonies such as on the day of the Rāma's coronation, they are seen among the distinguished assemblage waiting at the royal gate. Clearly, they are constantly associated with every coronation referred to the epic. Lastly, it may be pointed out that the Nigamas are not to be found among the Vānaras and the Rākshasas.

(b) Means of Communication

It is true that Indians from the hoary past had come to have a concept of Geography and had realized the importance of means of communication which is found in their written documents of literature. It is generally recognized that a number of scientific inventions which originated in India not only attracted the attention of western thinkers but also influenced in no small measure the growth of different sciences. India's pre-eminent geographical position in the ancient world proved to be of pivotal importance in the movement of technological practices.

Even in the Vedic period scientific knowledge regarding voice-communication was of a high order. Probably, Wireless was
well known to the Aryans. Means of voice communication are as important for the growth and development of trade and industry as important are the means of transportation. In the Rāmāyanaic age means of voice communication were used either for transmitting messages or for intelligence work to be carried out by a system of espionage.

On the basis of the study we find that in the ramifications of this process, means of voice communication come in three forms - (i) Wireless, (ii) Cara and (iii) Dūta.

(i) Wireless - The author of the Rāmāyana has not mentioned the details of wireless system as existed in that age. There are, however, evidences to testify that in the Vedic period and thereafter the Aryans had a power of transmitting and receiving the messages; a system closely resembling to the modern wireless. This is also confirmed by the study of the Rāmāyana where the messages from the unfathom depths of sky are relayed in the form of ākāśāvānīs. It may also be pointed out that there are no references to the existence of broadcasting station in the epic age. Besides, the Rākshasas were also acquainted with this technique and it is said that Rāvana dispatched an ogre named Suka, as an envoy to carry the message to Sugrīva. He stationed himself in the air and through wireless he transmitted the message of Rāvana and was then captured by the monkeys.

General facts about cara and Dūta

In ancient India, mainly in the epic period, which consisted of an aggregation of small independent and semi-
independent Janapadas where one was always ardent to engulf the
weaker neighbour, the cara (spy) and Dūta (messenger) were
indispensable tools of security for a king. In Vedic literature
we find such diplomatic agents.\textsuperscript{234}

The great poet Vēlmīki reckons the dūtas 'the eyes of a
king'\textsuperscript{235} because kings perceive all remote things through their
spies, hence they are called far-sighted. The poet again points
out that the wise king who collects a knowledge of his enemy
through spies, can, putting forth a modicum of effort in conflict,
neutralise his exertions.\textsuperscript{236} The poet also seems to recognise a
distinction between a cara (ex cara or caraka) and a dūta (a
messenger or an envoy), the former being a secret representative
of his master while the latter, an open one.\textsuperscript{237}

The Rāmāyaṇa mentions three kinds of servants. One who,
when entrusted by his master with a duty difficult to perform,
does even more (of course) in consonance with that work, is termed
a 'purusottama' (foremost among men). One who, though qualified
and capable, does not, when confided with some work, accomplish
any other work liked by the king (his master) is called a
'madhyama nara' (a mediocre man). And he is termed as a
'puruṣādhamā' (lowest of men) who, entrusted with any work of the
king, does not, though qualified and capable, accomplish it.\textsuperscript{238}

Hanumāna (the dūta of Rāma) was a purusottama because extra work
was done by him in addition to his duty of search for Sītā and no
dishonour was brought to his ownself. He accomplished many works
without marring the prime one and thus proved himself an efficient
dūta, in letter and spirit.\textsuperscript{239}
(ii) Cara (Spy)

The cara was a secret emissary and was indispensable in war time. In the Rāmāyanic age, at the time of war, the kings had a regular secret service department to the main functions of which were to evaluate the strength of enemy, to study the plans of his fortification and to investigate his military plans and movements. It was also to find out the secret agents of the enemy walking in disguise in his camp with similar motives. Spies were also employed to get apprised of the loyalty of the fugitive officers or relatives of the enemy seeking friendship (or service) with the king. Occasionally, they were also instructed to kill secretly the enemy or his officers.

After the abduction of Sītā, Rāvana appointed eight spies to bring him information about the movements of Rāma. Soon after, when Rāma besieged the Laṅkā, he appointed Vibhīṣaṇa chief of the 'Intelligence Bureau' and the latter employed his personal sacivas as spies to acquire the information about the future plans of Rāvana. He captured Śūka and Sārāṇa and Śardūla with his party because they were spying in his camp. Thus, we can assume certainly that Vibhīṣaṇa kept minute to minute information of the movements of Rāvana with the help of his spies.

The spies wandered here and there variously disguised to gather information about the strength and plans of the enemy. Hanumāna approached Rāma, on the Rṣyamūka mountain in the form of a mendicant, and sacivas of Vibhīṣaṇa entered Laṅkā in the form of sakunis (a bird). The spies of Rāvana spied Rāma's camp in the guise of the Vānaras. Occasionally, pretenders offended and
expelled from the kingdom by their master, entered into the service of the enemy and tried to spy. This can be deduced from the statement of Anāgada.  

The rules for the treatment of spy were rather unmerciful. If apprehended, he was mercilessly beaten and roughly handled. Śārdūla (spy of Rāvana) when detected was made to march hither and thither through various gates of the army, severely belaboured on all sides with knees, fists, teeth and palms by the indignant monkeys. Commonly, a spy was ultimately put to death. Śuka and Śārana, when detected and presented before Rāma, were hopeless about their life.

Dūta (a messenger or an envoy)  
The dūta was regarded as inviolable in ancient India. The Rāmāyana says that dūta is a mere messenger to communicate his master’s message. In the epic age two types of dūtas are mentioned by the poet.

(i) Ordinary dūta who carried his master’s message to their relatives or kings or Rasis well-versed in the Vedas. Such messengers were despatched by Vasistha to fetch Bharata and Śatrughna from Kekaya. Rāma sent his ordinary dūtas to Vālmīki Āśrama and invited Sītā to show her sanctity.

(ii) Special dūta of high rank, well qualified, also termed as Sacivas or amātyas, by the poet such as Hanumāna, Anāgada, Prahasta, Śuka, Śārana and Śārdūla.

The responsibility of a dūta was great. An imprudent move taken by an unreflecting dūta regardless of the exigencies of time
and place could set at nought actions even on the verge of enjoyment. Not only that, even good policies traced out by a ruler in consultation with his ministers failed to yield good results by a conceited messenger. Hence, high qualifications were demanded of a dūta. He was to be a native, learned, clever, ready-witted, representing the truth, and able to distinguish between right and wrong. He was to be well-versed in the lores, clever in speech, well disposed, wise of unimpeachable honesty and born in a high family. He was to be polite while delivering his message. For achieving success, he was to enriched with firmness, vision, understanding and skill.

In the epic Hanumāna, Aṅgada and Prahasta were employed as dūtas by their masters and of these Hanumāna played a very important role of an envoy in quest of Sītā and he behaved himself in Lāṅkā as if he was entrusted with absolute authority. In his master’s interest, after meeting Sītā in Lāṅkā, he reasoned out himself that since the diplomatic expedients, sāma, dāma and bheda could be of no use with the ogres, Rāma of necessity shall have to apply dāṇḍa (war), therefore, he should know the technique of war of the ogres, situation and defence of their fort. Besides, when Hanumāna entered Lāṅkā without passing through the gate, he encountered the guardian deity, this becomes clear that at this stage he was not a dūta but a cara.
The treatment accorded by the enemy to the dūta and cara differed as much as the official status. Since a dūta was supposed to be delivering his master's message adverdum, he should not be killed even if he is provoking\textsuperscript{271}. For the biggest offence the highest punishment prescribed for him was flogging and deforming\textsuperscript{272}. When Rāvana ordered death for Hanumāna, Vibhīṣana advised that it is against the canons of Royal Code because several punishments have been prescribed and accordingly the ogres set fire to the tail of Hanumāna\textsuperscript{273}. 
REFERENCES

1. Rām. IV.4.34.
2. Rām. VI.74.58-77.
3. Rigveda. I.116.4; X.85.23.
4. Rām. II.68.3.6,10; II.70.29; II.82.32; III.25.9-10; VI.69.21; VII.25.36.
6. Rām. III.22.22; VI.102.11.
7. Rām. III.51.15; III.64.46.
8. Rām. III.25.10; and VI.127.35 respectively.
9. "नृदात्ती तद अविनाशितम् देवभूमीं " Rām. II.83.3.
10. Rām. II.100.50.
11. Rām. VI.96.14; and V.46.18 respectively.
12. Rām. II.89.17; II.92.35; VI.11.22.
13. "सहिष्णुप्रवर्तिता आनुवंशिन महानं पुरुषकालविना घुमणि " Rām. II.92.35.
14. Rām. II.76.19; V.6.36.
15. Rām. VI.114.15.
17. Rām. II.89.17.
18. Rām. I.31.17; I.50.4; II.82.26,32; II.83.16; II.113.20.
21. Rām. II.82.26; II.83.16.
22. Rām. I.53.18; II.14.36; II.82.26; II.83.2; II.92.33; III.27.7; V.45.3; VI.11.3; VI.33.22; VI.57.25; VI.90.9; VI.95.33; VI.102.10-11.
23. Rām. II.69.15,18; II.70.29; II.82.32; III.31.34; III.35.8; VI.51.30; VI.73.8.

24. Rām. II.70.29; II.82.32.

25. Rām. V.48.16 and VI.69.4 respectively.

26. Rām. III.28.30; III.64.48; V.46.28,40; VI.43.44; VI.59.26.

27. Rām. VI.69.26; VI.71.19.


31. Rām. V.47.5.

32. Date, G.T. (1929), The art of war in ancient India, p.18.

33. Rām. VI.43.31,44; VI.52.29; VI.54.23; VI.69.26.

34. "है मदिष्ठ मन्दिर दूसरा विश्व कृत्रिम्।" Rām. III.22.13.

35. Rām. V.46.28; V.47.32; VI.52.29; VI.54.23; VI.69.26.


37. Rām. VI.44.10; VI.53.22.

38. Rām. V.45.15; V.47.32.


40. "अष्टोत्तम: लाखे: सुर्थ रथोपलोि न्यापत्तनु।" Rām. III.27.15 and VI.71.76.


42. Rām. III.27.15.

44. Rām. VI.57.26.
45. Apte, V.V. (1978), op.cit., p.832.
46. Rām. III.28.29; VI.43.44.
47. Rām. VI.65.35; VII.6.48-49.
48. Rām. VI.51.28.
49. Rām. II.39.10.
50. Rām. III.22.12 III.49.19; III.51.16; V.45.3; VI.97.18.
51. Rām. II.26.15.
52. Rām. III.35.10.
53. Rām. II.5.4.
54. Rām. III.64.48 and II.5.4 respectively.
57. "कै व ठगो व पाइयों पुनः दोनों पारियों सब्जात् " Rām. VI.71.21.
58. "...त्यथा वह रोख लोग तो लोहा।"
59. "ततं मैले किरातवार तपस्यन भूषणम्।"
"तत्पत्ताम् मूलम् जाय चिन्तकिल्लू।"
"तत्स रथ भूषयित्वाथ लिङ्गम् है मूलभिक्षम्।"
"तत: कोन्यन्त च चत्वारै: चिन्तकिल्लूखिक्षः।"
60. Rām. III.22.15; VI.95.30; VI.102.10.
61. "तलोड़वज मुषागर्भं हेमदंध समुचितस्तवम्।"
"षष्ठ शताब्दी च दिव्यालौप शोभितस्तवम्।"
"मनमंदकोमस्त्र सौम्य भयों कस्य निपातितिन्।"
Rām. III.64.45-46.
"सुविकङ्क्षः क्य: श्रीमान् देवराज रघो वरः।"
Rām. VI.102.11.
62. Rām. II.96.13; V.47.4; VI.44.8; VI.51.26; VI.53.7;
VI.78.17; VI.80.14; VI.102.11; VI.106.1-2.
64. Rām. III.45.28.
65. Rām. V.47.4.
66. "दूर लूट समायुक्त युक्ताठुलूल रक्षनु।" Rām. VI.95.33.
67. Rām. III.22.22; VI.102.11.
68. Rām. III.64.50; VI.75.10.
69. Rām. III.51.15; III.64.46.
70. "ससरंसरलस्युक्ते रथोपगमनकरवन।" Rām. VI.69.4.
71. "यथावेत यथा व; ह तु तीर्ण दाह्यः।" Rām. V.48.18.
72. Rām. V.47.4; VI.90.9.
73. Rām. I.6.22.
74. "ह ततुः सन्तो बहारनु महादयतु विनाहितानु महास्वत्तं रविंदेन।" Rām. V.47.31.
76. Rām. VI.80.10-16.
77. Rām. I.11.14-16; I.69.6-7; II Cantos. 68-71; II.Cantos. 49-50; and VII. Canto. 64 respectively.
78. Rām. I.5.8; II.5.18; VI.67.83.
79. Rām. II.6.18; V.3.19.
80. Rām. VI.67.83; VII.64.3; VII.70.11.
81. Rām. I.4.29; I.18.18; II.6.11; II.33.4; II.71.45; V.53.20-21; VI.127.8; VII.43.13; VII.93.6.
82. Rām. V.53.21.
83. Rām. II.16.47; II.17.12; II.51.21; II.100.51; II.114.27; V.4.4.
84. राम. I.4.29; I.77.7; I.3.17; II.5.13-17; II.9.17; II.7.2; II.15.28; II.16.42; II.17.3.5.6; II.26.2; II.33.8; II.41.17; II.43.13; II.57.16; II.67.20; II.70.26; III.23.2; V.4.14; V.53.21; V.60.18; VI.11.10; VI.62.1; VI.127.10; VII.93.6.
85. राम. II.127.8.
86. राम. V.53.20.
87. राम. V.53.21.
88. राम. II.6.11; II.17.16; II.51.21.
89. राम. V.53.20-21; II.16.47; II.66.28; II.71.45; VII.43.13; VII.70.11.
90. राम. V.12.18.
91. राम. V.2.50-51; V.3.3.
92. राम. II.6.11; II.16.47; II.17.16; II.51.21; II.68.28; II.71.45; VII.43.13; VII.70.11.
93. राम. I.5.10; II.79.13,17.
94. राम. II.82.20.
95. राम. II.79.13.
96. राम. II.80.9-10.
97. राम. II.80.1.
98. राम. II.80.1-2.
99. "दुर्लभ ताप्त यथार्थः तदुपनः परमात्मा। यहेः वेषेत् तु विश्वात् विद्वेष्टित्वम्॥।।"
    राम. VI.3.16.
100. राम. VI.22.63.
101. राम. VI.22.45-46.
102. राम. VI.22.62.
103. "परंतुश्च समुपपत्तम् यत्रेऽपि परिवर्तितं च।" राम. VI.22.60.
104. "सूचायणोंके पुनःवाणित व्याकरण शत्योजनम् !" कौम. VI.22.62.
105. दण्डान्यत्र पुनःवाणित विचिन्तित लथापरे !" कौम. VI.22.64.
110. Battacharya, N.N., 'India's Contribution to Islamic thought and Culture' in ICWTC, op.cit., p.574.
111. Devahuti, D. 'India, Malay and Borneo - Two Millennia of Contacts and Cultural Synthesis' in ICWTC, op.cit., p.510.
114. Idem
115. Ibid, pp. 352-354
116. Singhal, D.P., 'Red Indians or Asiameicans - Indian Settlers in Middle and South America' in ICWTC, op.cit., p.635.
119. Rām. I.17.27.


122. "युगलकौमुदी तत्रेन महानीतिः गुरुः योः" Rām. V.1.188.

123. "कृष्णाण्वयीः "तंत्रेन र्वत्ते ः तत् एव जययति" रा्म. II.82.8.


125. Rām. I.54.21-23; I.55.3.


128. Rām. I.5.10; II.6.11; II.14.27; II.16.47; II.42.23; II.48.4-35; VII.43.13; VII.70.11.

129. Rām. II.67.22.


131. Rām. III.55.4; V.28.8; V.25.14; VI.50.1.

132. Rām. I.24.3; IV.40.28-29.

133. Rām. II. Canto. 52.


135. Rām. II.89.7-20.


137. Rām. II.84.8; II.89.16.

138. Rām. II.89.10-11,16.

139. Rām. II.89.12.

140. Rām. I.45.7; II.52.9; II.81.6; II.89.7; V.25.14; V.28.8; VII.46.32.
141. Rām. I.24.2-3; II.52.6-7,75,78,80-81,93; II.89.7,16,20; III.55.4; VI.48.26; VI.50.1; VII.47.1; VII.48.22-23.
142. Rām. I.17.27; II.55.14-18; II.89.20; II.119.36; IV.20.29.
143. Rām. V.10.37.
144. Rām. II.89.11-12.
145. Rām. II.89.16-18.
146. Rām. II.84.7-8.
148. Rām. II.52.6; II.89.11.
149. Rām. II.52.81.
150. Rām. II.52.6,81.
151. Rām. II.52.6.
152. Rām. II.52.81.
153. Rām. II.52.80; VII.46.32; VII.48.23.
154. Rām. II.89.7,16,18,21; VII.46.32.
155. Rām. II.83.15; II.84.8.
156. Rām. III.42.20; IV.40.25; IV.42.14.
158. Rām. II.52.6; IV.40.34.
159. Rām. I.5.5-6; VII.53.11; II.68.13; I.33.19 and I.32.6 respectively.
160. Rām. VII.70.11,16; VII.72.17; VII.108.1,10-11.
161. Rām. V.31.7-9; II.71.9-10; VII.90.24; I.70.3; VII.38.14 and I.45.9-10 respectively.
162. Rām. VII.108.4.
164. "सैरास्त्रानु हाल लिखितानु सिद्धव्यतिकर्त्तानु।" राम. IV.42.6.

165. 'प्रवीणानु सिलिकोलकोलानु सैरास्त्रारुपार्थिकानु।' राम. I.13.27.


167. राम. IV.42.13.

168. The Rāmāyaṇa mentions Gokarana (I.42.13), Gokarna Parvata (V.35.82) and Gokarna āśrama (VII.9.47). According to a legend of the Rāmāyaṇa, King Bhagiratha engaged himself in asceticism in Gokarna, which is identified with modern Gumukhi two miles beyond Gangotri (Dey, N.L. (1979) op.cit., p.70). Gokarna Parvata was situated near sea-shore where Kesarī (a mighty monkey) killed Śambasādana (a demon) who oppressed the people of the sea-coast. Hanumāṇa was the son of Kesarī. In Gokarna āśrama, Rāvana, the King of Lanka stayed to perform tapas. The latter two places may be identified with modern Gokarna, situated along sea-shore and was trading centre in ancient period. The Mahābhārata also supports this view (vide, Pargiter, F.E. (1894) Geography of Rāma's Exile' JRAS, p.260).

169. राम. II.9.12; VII.55.6.


175. राम. IV.41.9-12.
176. Rām. IV.41.9 and 19 respectively.

177. Vide Law, B.C. (1976), op.cit., p.27.


179. Ibid., p.187.


181. Rām. IV.40.30 ff.


183. "शान्ति वरि पुरवाहिकर्मरूपं ध्यात्मा हस्त उपलब्धि

184. "सान्ति हरि पुरवाहिकर्मरूपं ध्यात्मा हस्त उपलब्धि


186. Rām. V.1.180; V.8.2; VII.33.3.

187. Rām. V.1.174-175.

188. Rām. V.7.7-14.

189. Rām. V.8.1-5; VI.121.23-30; VI.126.29-63.

190. Rām. III.72.6; V.7.7; VI.122.26; VI.127.39; VII.77.11.


192. श्रीपाल गिरी विषार्ड "सम्पाड्यि गिरी नहीं विश्वान या", वादमिस्ती, जुलाई 1981 वर्ष 21, अक्षे 9, पृष्ठ 121-125.
194. Rām. VI, Canto 121,122,123 and 126.
196. Rām. VII.75.1-13; VII.76.20 ff; VII.82.18.
197. Rām. VII.34.27.
198. Rām. VII.17.1; VII.20.1-3; VII.22.56.
    Geology in the Vālmīki Rāmāyana, Journal of the Oriental
    Institute, Baroda, Vol. IX, No.1, p.31.
200. Rām. VII.23.4-5.
203. "वैसी हरे शूर्य 'पूर्णि निधारणा'। वीरतम् सधारण स्वरूपिणी सम्प्राप्ता।"
    संपूर्व रूपान्तः: ब्रिलियर्सबर्नेर्सः। रिविय: 'पूर्णि निधारणिः सत्वनवभावः।"
    Rām. VII.24.7-8.
204. Rām. IV. Canto. 42.
206. Rām. VII.31.7 ff.
207. Dey, N.L. (1979), op.cit., p.120.
208. Rām. VII.34.1-3.
209. Rām. VII.34.21 ff.
211. Rām. III.23.30; III.24.24; VI.119.38; VI.120.22; VII.76.20,22.
212. Rām. VI.111.31-33.
213. Amarkośa - II.6.42.
214. Rigveda. X.64.10; X.93.7.
215. Rām. II.105.29.
217. Vide Kalyāna Kalpataru and Tīlaka Tīkā on Rāmāyaṇa
II.105.11 and VI.127.4.
218. "व्रजमन्दिर र राजन्या: कृपया मुझे राज्य न देना: !" राम. VII.127.4.
219. राम. II.83.11 ff.
220. "पृथिवी मे परिक्रमा गीतिन्त्र: तृणुभरता: !" राम. II.111.24.
221. Jaiswal, K.P. (1943), 'Hindu Policy', Bangalore, p.252-254,
222. Ibid., pp.252-4.
223. "लया निगम तुषारच्छ कुलीना येत्र राजन्या: !" राम. VII.37.21.
राजानिजितेकसु ते व्रजमन्दिर निगमिनि: कस ल !" राम. VII.598.2.
224. राम. II.14.40,52; II.15.2,23.
225. Dixit, V.K.R., Rāmāyaṇa ke kuch kājānīka śīlaśānta aur
sāsana saṃsthāyena'. Rāmāyaṇānāka, p.345.
226. अर्थात्त्वा त्मकुर्मावर्ग्याच मुखा येत्र निगमित स !" राम. II.15.2.
227. राम. VII.37.21.
228. राम. II.59.19.
229. राम. VII.74.2,6.
230. राम. II.15.2,23.
231. राम. VII.107.1.
232. राम. II.118.31; VII.110.8.
233. राम. VI.20.20.
cit, pp. 402-3.
235. "वारीण तस्मादच्छयन्ते राजानो दृष्ट्वते कु: । " राम. III.33.10.
236. "वारीण चिदित: षड्य: परिक्रमेकथाधिमिते:
युद्धेन स्वप्नेन यत्नेन समास्त्रश्च निरस्यते ॥" राम. VI.29.21.
237. This distinction may be clear from the details as given in
   the next pages.
238. Rām. VI.1.7-9; VI.3.8-10.
239. Rām. V.41.5.
240. Rām. VI.37.33-36.
241. "हतन्त्र प्राणि श्रृङ्खलानुसारी को।
   परिमाण न दोरे व दे न कसा:। पवित्र:।"
   Rām. VI.25.4.
242. Rām. VI.37.7-8 and VI.33.17 respectively.
244. Rām. VI.17.42-44; VI.20.10 ff.
246. Rām. III.54.23.
247. Rām. VI.37.33-36.
250. Rām. VI.29.25.
251. Rām. IV.3.2; VI.37.8; VI.25.9 respectively.
252. "हतन्त्र: सवासातन सर्वापि लक्ष्यं लेखे पवित्र।
   निचमालपीय: सहसा न कर्मैयो विशेषं।"
   Rām. VI.17.39.
254. "निकासीयित्वे तेन।"
   Rām. VI.25.15.
255. Rām. V.58.149.
256. Rām. II.68.3 ff.
257. Rām. VII.95.3-4.
258. Rām. IV.3.22; V.58.135; VI.25.1.
259. Rām. V.30-37.
261. Rām. II.100.35.

263. Rām. VII.11.23.

264. Rām. V.1.201.

265. Rām. V.35.74; V.36.2; V.48.61; V.50.19; V.51.30; V.53.135.

266. Rām. VI.41.77 and VII.11.22-23 respectively.

267. Rām. V.41.3-4.

268. Rām. V.41.7-9.

269. Rām. V.54.3-4.

270. Rām. V.4.2.

271. Rām. V.52.21.

It may, however, be noted that this rule was not respected by unrighteous kings. Rāvana (VII.13.48) and Lavana (VII.67.17-18) killed messengers from Kubera and Kāndhāta respectively, even before they had finished their speech.

272. Rām. V.52.13-15; V.58.146-150.

273. Rām. V.53.5.