

CHAPTER VII

Transboundary Exchange of Knowledge

The greatest genius is the most indebted man....

Emerson

Through out the ages India maintained her trade relations both overland and by sea with western Asia, Greece and Rome, Egypt as well as with China and the East. This connection with the outside world resulted obviously in exchange of ideas and information in different branches of arts and sciences. It is comfortable to observe it in the development of new art style like the Gāndhāra School of art, but no less visible it is in the exchange of knowledge relating to medicine and medicinal herbs.

Among the export commodities, India had a monopoly in the matter of the supply of pepper, cinnamon, and other edible spices which were in great request through out Europe¹.

India had need to import medicinal drugs along with other commodities like tin, lead, glass, amber etc. but to a small extent². The *Baveru-Jātaka* relates the adventures of certain Indian merchants who took the first peacock by sea to Babylon. Mr. Rhys Davids on the evidence of *Dīgha Nikāya* of *Sutta-pitaka* says that certain Indian commodities e.g. rice, peacock, sandal-wood were known to the Greeks and others under their Indian names in the 5th century B.C.³.

Export of Indian animals, sandal wood, monkeys and elephants' teeth to Egypt is historically evident⁴.

An interesting side light is thrown in connection with navigation on the behaviour of birds, used by the mariners to know the direction of

the shore. These were known as *diśā-kāka* i.e. the direction giving crows. Very interesting proof is furnished by *Dīgha Nikāya*⁵. It describes how merchants carrying on sea-borne trade used to take with them in their sea-going vessels certain birds of strong wing which in case of needs would be let loose. The birds while flying in all directions, if found shore within easy reach, did not return to the vessel and if not, their automatic choice was to return to the ship to land being fatigued for long flight. This practice was also known to the sea-faring Babylonians and Phoenicians of early times⁶.

This information on behaviour of bird is very interesting in the sense that the people in that remote past could well conceive the instinctive behaviour of the bird's tendency to fly towards the direction of land and this knowledge they could utilize to improve the methods of navigation in the days when there was no means of aerial communication with the sea-board from the deep sea.

There is direct evidence of the influence of *Āyurveda* in central Asia. Mention may be made in this context of the famous Bower Manuscript which was recovered from Kucha in course of an archaeological exploration carried out in central Asia⁷. It contains seven Sanskrit texts, of which three are medical treatises. The first deals with medicinal properties of *lasuna* and other roots and herbs. The influence of *Āyurveda* is also clearly traceable in Tibet. Tibetan medical system based on *Āyurvedic* principle was adopted by various tribes of the Himalayas. Myrabalans, blue lotus, black pepper garlic, ginger, cinnamon, root of costus are referred to in Tibetan pharmacology.⁸ Indian drugs were used in China, Korea and Japan.

It is well known that introduction of Buddhism into China promoted exchange of ideas between India and China. Not only philosophical ideas, various arts and sciences also were exchanged. As a matter of fact, Buddhist monks were well aware of medicine. Often they prescribed medicine and also surgery. Buddha himself is known as *Bhaiṣajyaguru* in Chinese legends.

There are numerous references to *Nāgārjuna*, *Jīvaka* and *Kāśyapa* in Chinese canonical literature. Indian drugs and their applications were mentioned in canonical texts. Episodes of Buddhist monks curing patients with their medicines are recorded in Chinese history.

Buddhism thrived in China during the rule of the Tang Dynasty (A.D. 618 to 907) and the early Tang Emperor, Tai Song (627-650 A.B.) in the Seventh century A.D. developed contacts with several Indian Kingdoms including Magadha⁹.

The *Nālandā* University famous centre for learning at that time was visited by a large number of Chinese Buddhist monks. The first Chinese monk to visit India during this period was Hiuen-tsang. The seventh century A.D. which saw the arrival of so many distinguished Chinese monks in India, also witnessed the journey of noted Indian Buddhists to China. Since interests in Indian medicine and other sciences were growing, these monk-travellers wrote about the distinctive nature of Indian medicine in their travelogues as seen in *Datang Xiyuji*¹⁰ i.e. 'the great Tang dynasty travels in the western regions'. According to Deshpande, 'By and by under the directive of Tang emperors, Chinese monks and visitors searched for famous Indian doctors and drugs'. Practice of medicine in Chinese monasteries grew rapidly and it is evident from literature, cave-inscriptions and carvings of the time. Ancient caves at Dunhuang (of the 6th to 10th century A.D.) bear ample testimony to the thriving condition of different aspects of Buddhism in China. Among the vast number of manuscripts discovered from Dunhuang, there are some medical manuscripts. Dunhuang medical manuscripts contained one, named *Qiposhu* or *Jīvakapustaka*. Jean Filliozat found that some five formulae in *Qiposhu* are from *Carakasamhitā*¹¹.

Sino-Indian Buddhist contacts that began in the first century A.D. resulted in exchange of ideas between the two cultures. Needham, the foremost historian of Chinese science is doubtful of any long lasting influence of Indian medicines on those of China. But recent studies of Deshpande and some others show that Buddhist medicine contributed in

the evolution of various disciplines of medicine in medieval China and had a share in overall medical practice of the time¹².

It is evident that Indian herbal knowledge had reached western world since the Greek botanist Theophrastus gives details of the medicinal use of various plants and herbs from India in his *History of Plants*¹³. The Indian concept of 'tridoṣa' has striking resemblance with the Greek idea of humour, though they are not exactly identical. The influence of Indian system of medical treatment on certain aspects of Greek medicine is supported by the mention of Indian medicaments; including pepper in the diseases of women, part of Hippocratic collection. Indian medical knowledge must have seeped through the Parthian empire, then the overlord of parts of India and Greece alike, along the trade routes described by Strabo and Pliny¹⁴. Because by this time the Greek power must have been greatly weakened^{ed} by the feuds of the rival lines of Demetrios and Eukratides¹⁵. It is known from Strabo that Parthians deprived Eukratides by force of arms of a part of Bactriana. It is possible that Parthian king Mithradates (c. 171-138 B.C.) penetrated even into India. Oro-sius, a Roman historian of 4th century A.D. makes a definite statement that Mithradates subdued the natives between the Hydaspes and the Indus¹⁶.

Megasthenes has left vivid description on behaviour of elephants. He described diseases of elephants and their remedial treatments and these were largely drawn from the *Hastyāyurveda*¹⁷.

The *Carakasamhitā* as a medical text deals with more and more details about herbs and plants. Of greater importance were the plant products exported by India to outside world. These were exported not only to satisfy the ever-growing demand of luxury items but also to be used in the preparation of drugs and medicines and as condiments in food and wines¹⁸. The articles of trade were many. How far the medicinal plants were concerned it is known from the *Buddhacarita* and the *Saundarānand* of *Aśvaghosha*. Both the text gives a list of medicinal plants some of which are the following: *aśoka*, *aguru*, *aśvattha*, *kālāguru*, *candana*, *jambu*, *pārijāta*, *priyangu*, *plāśa*, *madāra*, *śatapatrā*, *śamī*, *śāla*,

dinduvāraka, kamala etc¹⁹. Thus it is evident that there was a flourishing Indo-Roman trade in the first century BC.

The advanced knowledge of the Indian scholars in various disciplines impressed the rulers of neighbouring countries. Indian medical knowledge was held in high esteem. Indian plant products were used by Greek medical authorities and they usually prescribed plant drugs²⁰.

The Arabs knew about Āyurveda. Several Āyurvedic texts were translated into Arabic by the order of the Caliph²¹. It is known that Caliph Hārūn-Al-Rashid (A.D. 786-809) was cured of a chronic illness by one Indian physician whose name was Mankh.

Court physicians wrote about the Indian system of medicine. One such court physician who wrote a summary on Indian medicine on the basis of the *Carakasamhitā*, *Suśrutasamhitā*, *Mādhavanidāna* and *Aṣṭāṅgahṛdaya*, was Ali Ibu Rabban. In the year A.D.771 Indian cultural mission went to Baghdad²². This mission presented a copy of *Brahma Siddhānta* to Caliph Al-Mansur who ordered for its translation in Arabic. A trend was set for translating the Sanskrit works into Arabic. Such efforts had lasting influence on the Islamic Scientists. Regular communication had other effects also. Among vegetables, lettuce was imported from Arabia but lettuce is said to have originated in Greece from where it first came to Arabia and then on to India²³.

Nuskha Dar Fanni-Falahat (The Art of Agriculture) attributed to Mughal Prince Dārā Shikoh is approximately a 300-year old manuscript and is written in Persian²⁴.

The text refers to about 100 plant species. According to Y.L. Nene the contents of the said text are almost totally different from the earlier indigenous agricultural texts of India. But it is historically significant in the sense that the age-old policy of exchange at intellectual level was continued even as late as the days of the Mughals. Dārā Shikoh as a liberal scholar made an effort to encourage exchange of information between the cultures of West Asia and the Indian Subcontinent²⁵. During the Mughal period a large number of persons from West Asia and West

Central Asia settled down in India, owned land and practised agriculture, horticulture etc. Thus in villages, at the level of farmers, exchange of knowledge continued which was started more than 1500 years before the concerned text was written.

References

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