

# **THE STORY OF AYURUEDA**

**I.K.K. MENON**

**PUBLICATIONS DIVISION**



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## WHAT IS AYURVEDA

**A**yurveda is the name which the ancient Indians gave to their science of medicine. 'Ayuh' means life and 'veda' means to know. Ayurveda, therefore, is the science by which life can be prolonged or its nature understood.

The Vedas are the earliest sacred books of India. They are four in number, viz., Rigveda, Samaveda, Yajurveda and Atharvaveda. They are supposed to have been handed down by word of mouth in ancient days by Gods to sages. There was no Veda by name Ayurveda at that time. Susrutha, the great master of Ayurveda, calls it as an 'Upanga' or part. In all likelihood it was raised to the status of a Veda to give the science of medicine its deserving place.

There are two versions of its origin. The medical school traces its origin to Bharadvaja, who received it from God Indra. The surgical school traces its origin to Dhanvantari who also received it from the same god. There are a few references to treatment in the other Vedas, like a charm in the Rigveda, for chasing consumptive disease from all parts of the body, and an entire hymn in praise of medicinal herbs, invoking their healing and comparing the physician to a warrior. Most of the Vedic healing verses are seen in Athervaveda. Over one hundred of its hymns are devoted to conditions as varied as fever, consumption, heart-disease, leprosy, dropsy, wound, head-ache, parasites, eye and ear troubles, poison, rheumatism, madness and epilepsy. The medicinal substances mentioned were used as amulets, most of the references to diseases and their treatment being incantations for use, in ridding the diseases from the patient. For example a treatment of jaundice,

requests the body's yellowness to flow out the patient into yellow birds, turmeric roots and other yellow objects.

"May I have breath in my nostrils, voice in my mouth, sight in my eyes, hearing in my ears, hair which does not grey, teeth that are not discoloured, and much strength in my arms. May I have power in my things, swiftness in my feet. May all my limbs remain unimpaired and my soul unconquered." (Atharva Veda)

Ayurveda is gaining more reliance today than ever before. The interest shown in it in recent times has resulted in a new area of marketing, serving the needs of patients who seek natural products. More and more people are turning to natural products due to various reasons such as limitations and side effects of modern allopathic medicines. Because of this, even in developed countries Ayurveda is getting more and more popular to treat ailments which vary from simple problems like indigestion to diseases like Arthritis, Psoriasis, Diabetes, Spondylitis etc, which severely affect the quality of life of man.

This system, which was popular in India for hundreds of years, has now aroused the interest of the entire world and they look at it as an alternative holistic health care system. This shift has opened a new door to India to play a major role in the International health care arena.

According to Charaka, the physician of King Kanishka, Ayurveda emanated from the Creator, Brahma, who revealed it in its entirety to Prajapathi, 'Lord of the Creatures'. From him it was passed on to the Aswins, the divine twin horsemen, the helpers and healers among Vedic Gods. They passed it on to Indra, King of the Gods and from him mankind received it. It is believed that Brahma composed it in one hundred thousand slokas and a thousand chapters, before the creation of man.

Coming to the names of commentators on Ayurveda Chakrapanidatta occupies a prominent place. He lived about 1066 A.D., and wrote a complete and authoritative commentary

on The Charaka Samhita and Susrutha Samhita. Both these commentaries are of importance for the study of Charaka and Susrutha.

It will be interesting to note that there was a close relation between Greek medicine and Indian medicine. It may be presumed that mutual borrowing took place in both systems during the period when India came into close contact with The Greek after the conquest of Alexander and thereafter (300-650 A.D.). The active borrowing must have taken place during the Mauryan and Kushan periods. But opinion is divided in this matter. The great historian Vincent Smith denies any such Hellenistic influence, when writing about its influence on Indian Civilisation in general. It may be said that Greek or Hellenistic influence upon India during this period was slight and superficial. Sir William Jones, the founder of the Royal Asiatic Society of Calcutta, has affirmed it as improbable "that the Brahmin should have borrowed from other nations, especially from the Greeks whom they despised in particular."

Ayurveda was not confined to the treatment of diseases of human beings. It spread even to the treatment of the illness of animals, birds and trees. It deals in detail with the sickness of horses, elephants etc., animals useful to man. As regards the auspicious occasions on which trees are to be planted, how they are to be planted and protected have been described. This branch of Ayurveda is dealt with in detail in the subsequent Chapter.

Besides Charaka and Susrutha, Vaghata is another important name in the history of Ayurveda. There were two Vaghatas - Vaghata I and Vaghata II. Vaghata I wrote a treatise on general medicine, which he divided into six sections to which he gave the name of Ashtanga Samgriha. His object was to gather up into a harmonious form the more or less conflicting medical systems prevalent in his time, especially those contained in the works of Charaka and Susrutha. The Ashtanga Samgraha is frequently referred to in commentaries.

Vaghbata II refers to it as his chief source. Vaghbata II is best known as the author of Ashtanga Hridaya Samhita i.e. the essence of medicine. Popularly known as Ashtangahrdaya it contains a lucid and versified presentation of the whole of medicine, with special reference to surgery, as in Susrutha. He quotes not only from Charaka and Susrutha but also from Bhela, Nimi, Kashyapa, Dhanvantari etc. Ashtangahrdaya is the basis for the present day Ayurveda and is followed by the physicians of Kerala, where it developed more than in any other part of India.

It is evident that the profession of a physician was of very ancient origin and had been progressively developing over a long period before the compilation of the Samhitas of Charaka and Susrutha. There were two classes of physicians: the priest physicians and the caste of physicians, the Vaidyar. In Manu we read of a controversy between the priest-physicians and the Vaidyar!

In ancient India there were two types of training in vogue; the Brahminic and the Monastic. Indian medical lore has been handed down through generations, not by colleges or research centres, but by the individual training of pupils by skilled practitioners and this type of study was being followed till very recent times.

The monastic training corresponds to our university training. Jivaka, the physician of Bimbisara, a contemporary of Buddha, is stated to have been trained in the University of Takshasila (Taxila) under Atreya, Professor of medicine and it is also known that his studies lasted for seven years. Generally this is the period prescribed for the study of Ayurveda.

First, the student is expected to choose a suitable teacher. Charaka lays down the following qualifications of a teacher: "He should be clear in mind; he should be an experienced man; he should have practised medicine; he should be conversant not only with medical science but also other branches of study as

well; he should be without malice and must be of pleasing manners; he should be one well disposed to pupils and he should be able to communicate his ideas to the students competently."

Likewise, the students should also possess certain qualities. The teacher should be satisfied that the student possesses certain physical, moral and intellectual endowments. He should be a healthy person and should have all his senses in a perfect order. He should be free from haughtiness. He should be endowed with excellent character, and hard-working . He should be possessed of intelligence, memory power, and liberal mind. A person belonging to a family, the members of which have studied medicine or followed medicine as a profession was always preferred. The age prescribed for a pupil was sixteen years.

At the time of the initiation ceremony the teacher used to give advice, which the student should follow religiously. The student was expected to remain as a Brahmachari or celibate and possess a clean mind and body. He should always be helpful. The advice also covers his general behaviour, especially to patients. When the real training starts, the student is made to study by heart all the *slokas* required for his study and understand the meaning of every word of the *sloka*. He was to stay with his preceptor in his house, as a member of the household, serving him and daily watching him as he treated his patients. He assisted him in his pharmacy in preparing medicines. He should become familiar with the various tools and procedures of the medical profession. This 'Guru-Shishya Bandha' was considered to be sacred. On the other hand, the preceptor and his wife considered the pupil as their own son. The pupil also developed a respect and affection which he showed to his own parents. This system was known as the Gurukula system in ancient times. The Guru (Teacher) and Gurupatni (wife of the teacher) became a second father and mother to the student.

In this context it may be mentioned that surgery was also practised with great skill in ancient India. For this, the

teacher used to demonstrate to his disciple how to incise, divide, extirpate, etc., by performing these operations on flowers and fruits, watermelons, cucumbers, etc. Training in puncturing, letting out fluids, etc., was to be imparted by performing the operations on leather bags or bladders filled with water and mud. The operation of piercing, as in the opening of veins, was to be demonstrated on a lump of wax applied to a log of wood. Curing up was to be practised on thick cloth and on the edges of two pieces of soft leather. Bandaging was to be practised on the limbs of human figures made of wood or clay. The mode of bandaging the root of the ear was to be shown on pieces of soft flesh or the stalk of a water-lily. The withdrawal of urine from the bladder or the extraction of pus from the pelvic cavity by means of tubes was to be demonstrated on an earthen pot with a spout, filled with water. All these directions are vividly described in Susrutha Samhitas.

Susrutha lays importance on practical training as well as theoretical knowledge. He says "He who is only trained in theory but is not experienced in practice knows not what he should do when he has a patient. He will behave as foolishly as an untrained youth on a battle-field. On the other hand, physician who is educated practically but not in theory will not earn the respect of others."

Charaka says that along with learning and teaching a physician should hold discussions with other medical men after studying the Sastras and their meaning and attaining proficiency in reciting the Sastras and obtaining a practical knowledge of surgery. The physician had to get the permission of the king to commence his practice. Susrutha says "The physician should keep his hair and nails cut short and his person pure, should wear clothes, put on shoes and have a stick and an umbrella. He should be humble and his mind pure. He should be polite in his speech and friendly to all living beings and he should have an attendant of good character".

In vedic times the physician held a high place of honour. The priest-physicians gained access to the rulers and some of them stayed with them in the palace. He was practically a priest, physician, sorcerer and adviser to the king. The king's physician had to collaborate with the court-priest. He was assigned special duties like safeguarding the king against the possibility of being poisoned. The king's physician functioned as an army surgeon as well. He accompanied the army and stayed in a separate tent by the side of the king's tent. In his tent he had to keep all articles for treatment.

No mention is made in the Samhitas about hospitals or nursing home. The physician seemed to have treated his patients only in his house. Hospitals came into existence later, in the time of Asoka, (274 - 236 B.C.) Four requisites for the success of treatment were: the physician, the patient, the medicines and the attendant. Most probably the attendants were males. Their qualifications were also laid down. They should be amiable, capable of preserving secrets, strong in body and highly devoted to the care of the sick.

## **ANATOMY - FOOD AND PATHOLOGY**

**F**or studying anatomy an elaborate system was followed in ancient times. Susrutha Samhita says "Anyone who wished to acquire a thorough knowledge of Anatomy must prepare a dead body and carefully observe and examine its different parts. One should select a body of a person who was not excessively old nor who died of poison. Having removed all impurities from the inside, the body should be wrapped in grass and placed in a cage. Having firmly secured the latter in a hidden spot in a river, the body should be allowed to decompose. After an interval of seven days the thoroughly decomposed body should be taken out and very slowly scrubbed with a brush made of grass roots. At the same time every part of the body should be examined with the eye, one after the other, during scrubbing. Both Charaka and Susrutha devote a complete section of their Samhitas - 'Sarira Sthaana' as they call it - to the subject of Anatomy. Besides anatomy proper, embryology and histology are also dealt with. This reveals that the old Ayurvedic physicians' conception of Anatomy was as comprehensive as that of the modern medical science. Knowledge gained from dissection was to be substituted by observations gained from surgery.

Much progress was also made in the study of Embriology, (development of a child) Osteology (human skeleton), Myology (muscular), Angiology (heart and blood vessels), Neurology (brain) and Splanchnology (heart, lungs, etc.).

The views of Indian medical writers have not been carefully studied. The concept of Marmas - vital parts of the body - played an important part in the study of Ayurveda. Marma is a meeting

place of the five organic principles of ligments, veins, muscles, bones and joints. There are in all 107 marmas in the human body. In case of a surgical operation, the situation and dimension of each local marma should be considered first in such a way as not to affect the particular marma, in as much as an incision even extending to or affecting in the least the edge of a marma may prove fatal. It was the mastery of a knowledge of these marmas that contributed to the excellence of Indian surgery.

A study of the Indian medical classics reveals a vast amount of knowledge on problems of Physiology. The Indian medical writers consider the body as a conglomeration of the five elements: Prithvi (earth), ap (water), tejas (fire), vayu (air), and akasa (ether). The elements which co-operate together to uphold the body are called Dhatus and are seven in number, viz. Rasa, Rakta (blood) Mamsa (flesh) Medas (fat) Asthi (bone), Majja (marrow) and Sukra (semen). Vayu, Pitha and Kapha are also considered Dhatus under certain conditions. The body functions properly as long as these Dhatus are in proper proportions in it. The sole aim of Ayurveda is to prescribe diet, medicines and a regimen of life, so that, if they are properly followed, a normal healthy person may maintain the equilibrium of his Dates and one who has lost his equilibrium may regain it through treatment.

Ayurveda lays much emphasis on food. Charaka says "The life of all living beings is food, and all the world seeks food. Complexion, clarity, good voice, long life, understanding, happiness, satisfaction, growth, strength, and intelligence are all established through food. Whatever is beneficial for wordly happiness, whatever pertains to the Vedic sacrifices, and whatever action leads to spiritual salvation is said to be established in food." Ideal food, it is said, should be grown in your own field or garden so that you are aware of its contents and purity. In olden days cooks and doctors were Brahmins. A good cook personalised food, adding nourishment to it. It is believed

that hot food enhances the fire in the body, while cold food reduces it.

## FOOD

Information as regards food viz. food habits, which is good for the consumption of human beings etc., was gathered from time to time and the present list contains the accumulated knowledge of ages, so to say. No other system of medicine in the world has so much details as regards food.

Selection of food items to ensure good effects on the eater depends mainly on eight aspects: its quality, preparation, combination, quantity, the climate, the season, the rules of eating and eater.

Natural qualities are innate to the foodstuff. Black grain, beef pork and milk are heavy for digesting while mung beans, venison and rice are light. Raw food is heavier than cooked food. Preserved food is heavier than fresh food. Fish is generally hot and it can help strengthen body. Fresh rain water is said to be the best to drink and in olden days it used to be collected for drinking purpose.

Turning to preparation of food it was laid down that rice, which is generally light, is even made lighter when puffed by roasting or baking.

The container in which food is cooked or preserved should be carefully selected. Copper pot is the best. Food should not be cooked or stored in aluminium vessels.

The idea of Matra, or measure, is very important according to Ayurveda. Eat only that amount of food that will promptly be digested. Over eating is more harmful than fasting. You should ordinarily fill your stomach one-third full of solid food and one-third full of liquid food, leaving the last third empty. Similarly eat food in due measure after digestion of previous meal, so that there is free passage of food. It is also laid down that one should eat in a congenial, quiet place either alone or with affectionate

people so that the mind is at rest while eating. Food should not be taken either hurriedly nor very leisurely so that you may appreciate the good or bad qualities of the food you are eating. Eat without talking too much or laughing and concentration is to be given to your food.

Other rules are:

Do not eat when you are not hungry, and you should eat when you are hungry. Hungry stomach creates all sorts of troubles, including ulcers in your intestines. The rules of eating as prescribed by Ayurveda are as follows:

Do not eat when you are angry, depressed or tired. Keep as large a gap as possible between meals. Face east while eating, and sit to eat. The Brahmins usually pray before eating, they even sprinkle water three times around the plantain leaves in which they eat. This is a remnant of the old practice of reverence to food. After eating food it was customary to feed a cow, a crow or a dog. Eat with your hands. Chew each morsel repeatedly. Walk about a hundred steps after taking food to assist the digestive system, but do not exercise, study or sleep within an hour of eating. You may, however, relax, lying on your left side.

Some advices are also given for good, healthy living. It is traditional in India to fast twice a month, or sometimes once a week, but longer fasts are not recommended by Ayurveda as they cause degeneration of the body's tissues and lack of cooperation between body and mind. Charaka says "If you become habituated to good food, such as milk, ghee, oil and meat soup you will be strong, able to resist disease and long-lived". A baby is given butter and honey as its first food before its mother's milk.

Certain other grains are also recommended by Ayurveda. Barley, for instance, is one such. Barley's alkali, extracted from its ash, is one such. Barley's alkali, extracted from its ash, is even used for urinary stone troubles and retention of urine. Coconut water, is used for treating colic and respiratory diseases.

Rice is considered to be the best food, it is also used in the preparation of various medicines. Wheat, black gram, chick pea, common pea, lentil, mung bean, sesame, meat, beef, fish, mutton, pork and fresh vegetables and garlic are considered to be good food.

Ginger is regarded as very good for human body. Bhavaprakasha, a renowned Ayurvedic scholar of ancient times suggests that one should take a little fresh ginger and rock salt before meal for good digestion. Hingavashtaka Churna, a popular medicinal powder, contains ginger and this relieves bloating and abdominal swelling and discomfort. With lime-juice and sugar or salt it is a popular Indian first aid remedy for sunstroke. Powdered dried ginger with crystallised sugar (Mishri in Hindi) is very good for chest congestion and cough. Ginger promotes blood circulation, especially when applied on the forehead relieves some kinds of head-aches. Juice of fresh ginger alleviates certain kinds of ear-ache, and burnt ginger and salt is beneficial for the gums and teeth. Taken with turmeric in hot milk, dry ginger (Adrak in Hindi) cures respiratory congestion.

According to Ayurveda onions are also as useful as ginger for our health. Onions stimulate the heart, promote bile-production, reduces blood sugar and lessens intestinal gas. Fresh onion juice makes a good heart tonic when given with honey or preserved jaggery. Several popular preparations make onion a trusted home remedy. Its juice is dropped into the eyes (with honey for pain and cataract) nose (for runny nose and nosebleeds) and ears (for ear-ache). A paste of onion on the soles of feet is said to cure head-ache, as is the smelling of crushed onion, which is also prescribed for nausea and vomiting. Used in food protect's one's teeth, and in various combinations it has been used to cure asthma, diarrhoea, dysentery, urinary stone, heat-stroke and rheumatism. It is the practice among the people in North India to keep a piece of onion inside their dress to prevent heart-stroke in mid summer.

The coconut, which is sweet, oily and cool strengthens and builds up the human body. The water of tender coconut flushes out the kidneys and cools the system. As the coconut gets older and drier, the water gets hotter. Coconut oil is nourishing for the hair, and extracts of coconut are sometimes used to treat tuberculosis and certain other infections. Related to the coconut palm is the toddy palm, whose sap, fruit and root are cooling and relieves gastritis. The sap flushes the urinary tract. It ferments soon after collection. The resulting alcoholic beverage, toddy, is a pleasant drink and a laxative. It is used with rice flour on inflamed body parts. Fresh toddy taken out of tender coconut is also given as a tonic to tuberculosis patients. It is used as an ingredient for some other tonics.

Dates and figs are other fruits recommended by Ayurveda. Similarly grapes cure thirst, burning sensation, fever, short breath, indigestion, alcoholism, bitter taste in the mouth, and diarrhoea. The sap of its young branches is a good cure for skin diseases and cough. Coming to Guava fruit, it is used as a medicine to control diarrhoea. Decoction of its leaves is gargled to relieve swollen gums and mouth ulcers.

India is called Jambudweepa, the Rose Apple Island. Jambu or Rose Apple is supposed to have great medicinal values. It is astringent, sweet and cooling. The fruit helps carry 'Prana' or life to the tissues, and is used in treating diabetes, enlarged liver, diarrhoea and bleeding piles.

The wine made from the ripe fruit is a cure for too much output of urine. The seed of jambu has a strong antibiotic effect and is good for treating diarrhoea and dysentery, as are the bark and leaf juice. The latter is purifying and invigorating and is used externally to cure sores.

The Indian lemon or lime is of great importance to Ayurveda. Its juice is applied on mosquito or other bites; on skin eruptions and on the scalp to remove dandruff. It has also been used for treating fevers, constipation, diabetes, diseases of the

lever and spleen, poisoning, gout, arthritis and even cataract. Some authorities claim that all diseases are cured by it, if properly prepared and administered. The leaf of lemon is often mixed with light buttermilk, which serves as a nice cold drink during summer.

Mango is generally called the King of Fruits in India and its juice, 'Rasaraja' the King of Juices. Myth has it the mango flower is cupid's arrow and the fruit which is shaped like a woman's breast, provides a juice which equals nectar. The ripe mango cools the blood. It is said that during summer one can live on mangoes and milk alone. The unripe fruit is used to prepare a cooling drink during the hot season, and the kernel inside the seed can cure diarrhoea.

Pomegranate is another fruit recommended by Ayurveda for stomach disorders. Its skin powdered nicely is added to light butter-milk and boiled. This, mixed with rice is a good cure for diarrhoea. The fruit is recommended for worms and other troubles in the stomach. This fruit is sacred to the Zoroastrians and is used in their rituals. It is said that Prophet Muhammad advised his followers to eat pomogranates to help them purge jealousy from themselves!

Another fruit with medicinal values is Tamarind. It is referred to as the 'Date of India'. Tamarind is generally used in the diet especially in South India to increase appetite and digestion, and has laxative effect. After boiling it in water and sweetened, Tamarind is given to cool the body in fevers and, with other ingredients, to relieve the after-effects of alcoholism. Its seed made into flour, is applied as a paste to cure scorpion stings and styes. The seeds, after removing their shells, are taken internally for back ache.

Most nuts, including almond, walnut, pine nut and cashew nut are hot and strengthening. They build up body and are rejuvenating. Almond is regarded as superior to the rest.

For centuries, the Aryans were nomads and they went

from place to place with their cows. Ayurveda prescribes beef as good food. The vedas permitted bulls as sacrificial animals and the consumption of sacrificial beef was permitted on certain occasions even among Brahmins. Ayurveda prescribes the worship of cows as well.

The cow has been considered sacred in India for ages, partly because she is the foundation of the vedic way of life. Cows are useful in many ways: they produce milk and butter for food, dung for fuel and urine for preparing medicines. Ayurveda respects milk because it is the pure essence of the Rasa of plants, concentrated into white essence by the animal's organism. Milk is excellent for children, for the weak, old or sleepless. Hot milk is supposed to heal common cold. Buffalo's milk is also considered to be as good as the cow's milk, although it is more heavy. Goat's milk is recommended for infants, and it is a popular remedy for cough. Donkey's milk is good for whooping cough. Human milk is vitalising and is used as nose drops in nosebleeds and for application in eye disorders. Yoghurt, made out of curdled milk, is good for curing piles, diarrhoea and dysentery and is also commonly in urinary tract, loss of appetite, indigestion, anaemia and some other diseases. It is even said to cure insanity, consumption, chronic fever etc. Preserved ghee is used to treat alcoholism, epilepsy, fainting, fevers and pain in the ear or head. hundred times boiled ghee is used externally for healing wounds.

**Oil** had a prominent place in Ayurvedic treatment. Charaka lays down "By the use of oil, in olden days, the Kings of the Demons became unaging, free from diseases and fatigue, and endowed with great strength in battle." Oils are mainly used externally in Ayurveda. Now that the ghee is expensive, the average Indian cooks with oil. Sesame oil, the best of all oils, is good for the skin, hair, intelligence, etc. Mustard oil is not held in high esteem by Ayurveda, although it is popular among North Indians. Massage plays an important part in Ayurvedic treatment and it is always done with oil. It is profusely used for 'Pizhichil'

'Dhara' and other forms of treatment in Ayurvedic system especially in the Southern parts of India and particularly in Kerala. It is found to be very effective for sprains, bone dislocation and even for fractures. In the North, mustard oil is extensively used for exercise before bath especially in winter. Oil massage (Tel Maalish) and sun bath are common there mostly in winter to ward off cold. Oil massage and an oil bath are given every day to infants and they enjoy it. In Kerala it is the usual custom to apply oil every day before taking bath. Coconut oil and other medicated oils are used by ladies for growth of hair.

**Sugarcane** promotes the free flow of urine. Its juice is cooling, laxative and nourishing. Jaggery, which is made from its juice, strengthens marrow, enriches blood and is an antidote for worm troubles. The purer the sugar produced from the juice, the cooler it is.

**Honey** is good to apply on burns and wounds. It strengthens the body. After taking honey it quickly moves to the deepest tissues. Honey must be used raw, never cooked. It is a good antidote for stomach disorders and colds.

**Spices** are also important for the human body. They are used to make food more digestible and reduce the negative effects. Cinnamon and cardamom ease respiratory congestion.

**Black pepper** is one of the spices highly recommended by Ayurveda. It burns toxins inside the body. It is mixed with medicated ghee for nasal applications, for sinus congestion and head-ache. Cardamom, on the other hand, rejuvenates the system. It is a remedy for indigestion, abdominal distention, piles, urinary complaints, weakness of the heart and body, cough, asthma and consumption. Cardamom relieves acidity and is used for respiratory congestion. It is included in some Ayurvedic churnas or powders.

**Turmeric** is considered to be good for skin. Its paste, added with sandal paste becomes more effective. Probably that is the reason why it is used as *prasad* in temples. It is smeared

all over the body. The paste is good for improving complexion as well. It is also used internally to purify blood. Turmeric is used as antiseptic for wounds. Its paste is used for bruises, bites, stings and boils.

Besides these, some herbs also play an important role in Ayurvedic treatment. Women and men were using herbs gathered from fields, their house compounds, and forests to prepare medicine to alleviate pain and cure sickness. With the advent of western medicine however such medicines were considered out of date. Ayurvedic physicians and people who had faith in it however, continued to make medicines out of herbs and administer them.

To illustrate the efficacy of herbs one incident may be narrated. This happened about 65 years ago in Kerala. A lady belonging to an orthodox family was pregnant. When the delivery time came, the labour pain started and it continued unabated for 3 days. The lady was becoming weaker and weaker and she was not taking food because of the intense pain. An Allopathic Doctor was called in and he recommended a caesarian operation. But in those days especially among orthodox families, operation was a taboo. So a renowned Ayurvedic physician was brought. He examined her and immediately he ran to the back of the house, where there was a wild growth of plants. He plucked one plant, made a paste out of it and applied the paste on the lower portion of the lady's abdomen. After five minutes the pain subsided and the lady had a safe delivery.

**Herbs** were often used when all other treatments proved futile. They were found to be extremely useful and efficacious.

The herbal folklore remain unrecorded and this is being lost to us gradually. But for the revival of Ayurveda we would have lost them for ever. In ancient days herbs were considered as very important and there was a great demand for them in foreign countries. Shiploads of herbs and their derivatives like perfumes and oils used to be exported to far-off countries like

Arabia, Mesopotamia, Egypt etc. Knowledge of herbs was developed by our seers, sages, wanderers and tribals, who, mostly through observations and intuition discovered the many properties of plants and their products. Other herbs brought into the sub continent grew and increased our knowledge of herbs, and Ayurveda freely used them.

Even to-day there are people who treat minor ailments inexpensively with remedies which came to them from their fore-fathers and grandmothers. It is but a fact that our predecessors were far more healthy than us. Some diseases were unheard of in those days. The high standard of their health was surely due to the good and rich food they took, the clean unpolluted environment and their living habits.

In olden days, for every ailment there was a remedy which the senior members of the household knew and they could easily prepare them with the plants available on their own precincts. Only in extraordinary circumstances did they go to a physician. Some of these herbs were grown in the garden with utmost care.

Mention has already been about some health-giving roots, leaves, fruits etc. in the portion relating to food. In addition, there are certain other objects of nature which are of great medicinal value. One among them is Bel. "Plant a Bel and please Shiva" says Padma Purana. Bel is extensively used throughout India. In the South it is called Bilva. There is a legend that Vasuman, the King of Videhas, regained his kingdom by planting a Bel tree in Tiruvidaimaruthur temple. The Charaka Samhita recognises its medicinal values. It is considered to be one of the Dasamoolas or Ten-honoured tonic in Ayurveda, excellent for debility. Its leaves are used for ulcers, hypertension, jaundice, head-ache and for gangrene and inflammations. The unripe fruit is used in preparing a medicinal jam (Lehya) which is used in acute, chronic diarrhoea. It is also used for curing ulceration of the intestines. The ripe fruit is made into a cooling sherbet. It protects the entire digestive canal and is recommended

for curing stomach ulcers. In Cambodia it is used for treating T.B. and Hepatitis.

**Neem** is another tree which serves humanity in a good number of ways. Almost all parts of this tree are used for preparing Ayurvedic medicines. It is believed that if it is abundantly used, it promotes spiritual achievements. In the South it is known as Vep and in the North as Nimba, Cimba etc. Neem is prescribed for joint pains, ring worms, intestinal worms, piles, excess flow of blood due to piles, fever, dandruff, falling of hair, lice, and infection in scalp. Lukewarm Neem oil cures certain types of deafness, ear-ache (leaf juice as drops), headache, stomach ache, throat pain and infection (crushed leaves in water), boils, chicken-pox, chronic skin diseases, leprosy, wounds etc. Neem tree branches cut into small pieces are used as tooth brushes. It cleans the teeth and prevents bad odour in the mouth. Tender Neem leaves taken at night with water is a blood purifier and prevents constipation.

**Mustard** is highly useful in many ways. Taken internally in small quantities, - as is being done in our daily cooking - it increases the appetite and stimulates the production of gastric juices. It is a cure for lumbago, gouty pains, stomach ache, stomach upset, hiccup, baldness, head-ache, mental tension, migraine, breathing troubles, chest congestion, cough, cold, flu, boils, skin eruptions etc.

**Papaya** is another tree strongly recommended by Ayurveda. It is grown throughout India and is very popular. It is called by different names : Papita, Pappali, Parisha, Arand, Karmos etc. Its leaves, root, fruits and seeds are used for ailments such as muscle pain, anaemia, constipation, enlargement of the spleen, liver and jaundice, urinary complaints, festering wounds, ring worm, etc.

**Coriander** is a herb which traces its origin to the Mediterranean region, but it is profusely grown in India now. This useful household remedy cures several digestive disorders. It is

also used for ailments like swellings, giddiness due to blood pressure, high colesterol, abdominal pain, diarrhoea, dysentery, hepatitis, nausea, cataract, head-ache, rashes on the skin, anaemia, fatigue, etc.

**Saffron**, which is extremely expensive, is used to cure a variety of diseases. Popularly known as Kunkumam it is grown in plenty in Kashmir. The herb is delicate, requiring extreme care for its survival. It is said that about 50, 000 flowers have to be harvested to produce a handful of saffron. Being highly costly, saffron is likely to be adulterated and one has to be careful to see that it is pure, before it is given as medicine. It is a cure for diabetes, internal bleeding, urinary troubles, fevers and even baldness. Saffron is also supposed to be good for purification of blood and for common colds for children.

Charaka Samhita lays down: "Grind **cumin seeds** with a drop of ghee and a pinch of salt. Apply for scorpion sting". Cumin, commonly called as jeera or jeerakam, is known for its carminative action since Biblical times. Iran is the major exporter of cumin. In India the chief trading centres are: Jabalpur, Ratlam, Jaipur and Gangapur.

In Ayurveda, cumin is considered to have a good cooling effect on human body. It is generally believed to be a cure for diabetes, high blood pressure, constipation and indigestion, diarrhoea, gas, giddiness, nausea, prickly heat and scorpion bite. In the south it is generally put in boiling water and after cooling it, used for drinking purposes. Dried ginger is also added to it. Jeera Pani is popular in the North as well.

**Dhatura**, known in English as Thorn Apple is known in the South as Ummath or Oomathai. This, again, is considered as sacred to the Hindus. "Offer flowers of Dhatura to Thrilochana (Shiva) in the month Shravana" says Vamana Purana. After its mythological association with Lord Shiva, Dhatura is known as "Chandrasekhara" in the ancient herbal texts of India. It is good for swollen legs, baldness, earache, soreness in the eyes, boils,

snakebite and mental derangement.

**Cardamom**, generally known in the North as Elaichi and in the South as Elakkai is an important remedy in Ayurveda for giddiness due to B. P., dyspepsia, nausea, gas, migraine, nasal congestion, tooth problems, blockage of nose to colds, diarrhoea, dysentery, scanty urination, constipation etc.

**Asafeotida**, called 'Hing' in the North and 'Kayam' in the South is considered to be of great medicinal value. It is supposed to cure diabetes, heart problems, gas troubles, indigestion, stomach ache and liver problems, kidney-pain, head-ache, tooth ache and asthmatic problems. It is generally used in the preparation of curries and pickles in the South. 'Ayurveda Sankhyam' of Todarananda says "Paste of hing mixed with goat's urine cures the bad effects of grahas, insanity and fever". It is added in some of the effective remedies of Ayurveda.

Known as **Anjir** in the North and as Athi in the South, Fig is used in different ways in Ayurveda. It is good for ailments such as arthritic swellings, blood deficiency, diabetes, inflammation of spleen, constipation, kidney-stones and bladder stones, eye troubles mouth ulcers, loss of hair, sore throat, boils, small-pox and chicken-pox, loss of hair, sore throat, physical weakness etc.

**Saunf** is known by different names in India. In the South it is known as Sombu and in certain parts of North India, other than the Hindi belt, it is called Mauri, Variari, Wariyali etc. It is a remedy for joint pain, anaemia, diabetes, indigestion, constipation, diarrhoea etc. Saunf Tea is prepared by mixing it with tea and is considered good for reducing fatness.

**Liquorice**, which is called by different names in India is supposed to be rich medically. In Hindi it is called Mulethi and in the South by Irattimathuram, Atimadhuram, Yashtimadhuram, etc. Liquorice is a sweetening ingredient and possesses anti-inflammatory properties. It is considered to be good for myopia, gum inflammation, mouth ulcers, sore throat, bronchitis,

common cold, stomach upsets, etc.

**Chinese Hibiscus**, called in the North as Jaba and in the South as Chappathu is a good cure for heart problems, urinary disorder, hair loss etc.

**Pudina** (mint) of the North which is called as Muthina, Podina, etc. in the South is good for indigestion, abdominal pains, colic, dyspepsia, jaundice, piles, nausea, fever, head-ache, teeth problems, etc.

**Bitter Gourd**, which goes by the name Karela in the North and Kipa and Parkai in the South is ideal for diabetes, intestinal worms, bleeding piles, blood in urine, wounds, leucoderma, etc. It is supposed to contain a good percentage of iron. Karela is grown in plenty in all parts of India and is a popular vegetable.

**Curry leaf**, called in the North as Karipatta, and in the South as Kariveppila is the most popular aromatic in South India flavouring sambar, rasam, etc. Karipatha is considered to be a good preventive for cancer. Its leaves strengthen the body, increase appetite and eliminate body heat and fever. It gives brightness to the eyes and blackness to the hair. The juice of the roots of this plant is taken to relieve pain associated with the kidneys. It is also a cure for constipation, diarrhoea falling hair, etc.

**Banana** is a fruit venerated in India. The Hindus believe that Lakshmi, the goddess of prosperity, resides on a banana leaf. Bananas are always associated with happiness and prosperity. India is the second largest producer of bananas in the world. One-fourth of what is produced in India comes from Tamil Nadu. This State cultivates about 80 varieties of banana. The rootstock of bananas has curative properties for skin infections, blood infections and deficiencies in the blood. The juice taken out of banana flowers is believed to cure diarrhoea, bleeding piles, burning sensations in hands and feet, cough, intestinal worms, etc. The unripe fruits also possess certain medicinal

properties useful in treating nausea, ulceritis, collitis, etc. The unripe fruits also cools down the body. Loaded with calcium, sodium, potassium, phosphorous, sulphur, magnesium, iron and vitamins, the ripe bananas are real body-builders for children. Bananas, if taken regularly prevents constipation. Eating food on a banana leaf is the usual custom in the South. This practice, it is believed, wards off infections and food-poisoning.

**Nutmeg**, popularly known as jaiphal and jaivitri in Northern India and as jaikkai, jatikkai, etc. in the South was in use in India as far back as 700 B.C. In Guna Padham it is laid down "Nutmeg imparts tejas (radiance) strength and flavour". It is a household remedy for treating diarrhoea and is considered a stimulant tonic. In Ayurveda, jatibhalati bhati is used for chronic dysentery. Jatiphala churna is a sedative. Nutmeg paste is applied around the eyes to make them bright by people in rural areas.

**Black cumin**, another herb of medicinal value, is called Kalijira, Kalaunji, etc. in North India and as Karumjirakam in South India. It is a cure for gout, lumbago, rheumatism, intestinal worms, piles, fever, head-ache, swelling in body, boils, etc.

**Tulasi** (Basil) is another plant used for various purposes. It is one of the most important plants in Ayurveda. Tulasi is closely linked to the very roots of India's civilisation. Not only Indians, but people elsewhere also hold this plant in high esteem. Scientifically Tulasi has been found to possess great properties. In Hindu temples, water in which tulasi leaves are put, is given to devotees as Theertha. Tulasi is planted in every Hindu home in Kerala and at twilight a lady member of the house show a lighted lamp at dusk or Sandhya before the tulasi plant as a mark of respect and also to ward off evil influences. Its leaves, seeds, roots and extracts are used for making Ayurvedic medicines. The tulasi is considered to be a good antidote for fevers, indigestion, cold and cough, chest diseases, wounds, skin diseases, etc.

Raja Nikhandu says : “**Khuskhus** ensures brightness, energy and strength”. Khus is called by different names in various parts of India. But mostly it goes by the name Khus Khus. It is a cure for burning eyes, dandruff, weakness, insomnia, prickly heat, cough etc. Vamana Purana says that one can survive by eating the Amla fruit. It is a storehouse of Vitamin C. The Hindus associate it with Kubera, the God of Wealth. It is also called Dhatri meaning mother. Amla is supposed to increase energy and give a soothening effect to the mind. It is called Amla in the North and Nellikka in the South. It is a cure for diarrhoea, constipation, urinary problems, jaundice, head ache, mouth ulcers, skin problems, etc. Amla oil has a cooling effect especially in summer and people smear the hair with it before taking bath. It is considered to be very good for mental patients and Amla oil is freely applied on their head before a cold water bath.

Known in the North as **Til** and in the South as **Ellu**, sesame is another important plant. Its oil is generally used for massaging the body. Sesame oil for the body and coconut oil for the hair are ideal. It was a sought after oil-seed for rituals even during the Vedic times. Its seeds too possess medicinal properties. It is a cure for pain in the joints, rheumatic pains and burning sensation in the eyes, deafness and hearing deficiency, dandruff, ear pain, premature greying, facial paralysis, etc.

**Cloves** are stimulant and carminative and are used for dyspepsia and gastric irritation. Known in the North of India as **Lavang** and in the South as **Karambu**, cloves serve as an excellent remedy for cholera, nausea, gum and tooth ailments, head-ache and bronchial troubles.

**Ajwain**, generally known in the South as **Omum** was traditionally used for diarrhoea, dispesia, flatulence, indigestion etc. At home Ajwain seeds are used in the form of decoction, in combination with Asafoetida, rock salt, etc. It cures loss of appetite, flatulence, colic pains, kidney pain, ear ache and a

number of other ailments.

**Fenugreek** is known in the Northern parts of India as Oruya, Methi etc., and in Southern India as Uluva, Mentya, Vendayam, Mentula, etc. It is grown in plenty in Northern India. Medicinally it soothes persistent coughs. It is given as a decoction to persons suffering from tuberculosis. It is considered to be an excellent gargle for sore throats. Fenugreek is rich in iron and helpful in combating anaemia. Both leaves and seeds of Fenugreek help in cooling down the body. It has found a place in Indian recipes.

Indian **Acalypha** is popularly known in the North as Khokali, Kuppi, Muktabari and in the South as Kuppameni. It is the Indian counterpart of catmint, a plant which cats are after. Cats eat whatever is available, and due to their eating habits, they often suffer from indigestion. Whenever faced with such problems, they, like trained herbalists, uproot Acalypha and chew up the roots to relieve their ailment. It is an unimpressive weed, which grows on dunghills and manure heaps. That is why, it is called Kuppameni in Tamil, meaning grown on kuppai or garbage. It is a handy drug to the traditional village doctor. Its leaves and roots are used to cure intestinal infections due to worms, constant formation of phlegm, tooth-ache, bums, stomach-ache, hernia, asthmatic bronchitis, pneumonia, rheumatism, itching, ear-ache, numbness, etc. Its leaves are also used for Panchakarma treatment in Ayurveda, which will be dealt with later.

**Calamus** called in the North of India by Gorbach, Safedbach, Themepru, etc. and in the South as Vayampu, Vasampu, etc. is a medicine for body and mind. Raja Vallabham calls it "Vacha - the Memory Enhancer". It is considered to be good for the improvement of memory power and the functioning of the brain. Its power is blown into the nose to help a patient to recover from a coma, to regain consciousness. It fights against toxins accumulated in the body and also coughs, pyorrhoea,

elephantiasis, hepatitis, etc. In the South, Calamus is a medicine for infants. A paste made out of this root is used with pure ghee or honey every day as a post natal ritual. It is supposed to enhance the intellectual power of the infant and is also an all purpose antibiotic.

**Vasaka** known in the North as Adelsa, Babaka, etc., and Adalotakam, Adadathodai, Adasaramu, etc. in the South generally grows in the wilderness. Sometimes it is grown as a hedge-plant. The drug vasaka is prepared from the fresh or dried leaves of the plant and is considered to be good for germs and worms. It is also used for all types of respiratory problems.

Gods are very often associated with flora. As already mentioned Tulasi is associated with Lakshmi, Goddess of Wealth, Bel is important to Siva, Durva grass to Ganesa, Amla to Kubera, the God of Wealth and so on. But devils also have got their tree and it is called by different names Saptama, Shaitan ka Jata, Chatim Chaiten, Chhatim etc. in the North and Elilampala, Edakulapala, Hale, Maddale etc. in the South. The names have been derived from folk-beliefs. The tribes in the Western Ghats generally avoid passing by this tree for fear of its evil powers. In Kerala it is considered to be the abode of an enchantress, who, it is believed, attract the way-farers and after taking them into her custody drain out their blood, and kill them. The bark of this tree is a remedy for fevers, skin troubles, eczema, ringworms, etc. It is also used to cure chronic diarrhoea and for destroying intestinal parasites.

**Shatavari** called in North India as Satamuli, Satavari etc. and Nannari, Kilavasi, Sadamoolam, Challagadde, in South India is supposed to contain great medicinal properties. It is chopped, cleaned and used as fodder for animals. It is put in boiling water, cooled and used for drinking. In summer it has got good cooling effect. Shatavari is recognised in Ayurveda as a good medicine for mental performance and for slowing down the ageing process; for diabetes, diarrhoea, dyspepsia and tumours.

It is also used to cure cough, mumps, gout, lumbago, rheumatism, etc.

**Durva**, called in the North as Doob and in the South as Karuka Pullu, arugampil, gericha, etc. is very often called as ‘green blood’ as it is considered to be as important as blood. Full of chlorophyll, durva juice contains many nourishing values. It is believed to remove toxins. Ayurveda calls it Sahasra, Virya, meaning a thousand medical properties.

**Jamun** is a small black fruit grown in plenty in North India. This again is called by different names in various parts of the country. In the North it is also called Jambu, Jamu, Jamli, Jambul etc. It is called Naaval in South. It is associated in Hindu mythology with Ganesha and Krishna. It is also sacred to the Buddhists. Ripe jamun fruits are eaten widely in India. Hindu ritual invocation says “In the continent where Jamun grows, and where the land of Bharata lies”, India or Bharat is even called Jambudweepa. A wine is prepared in Goa out of the bark of the Jambu. A special kind of vinegar is prepared from the juice of the unripe fruit. Its fruits, bark and leaves are used in the treatment of diabetes. It is also used dor diarrhoea, dysentery and some other ailments.

**Banyan** known as Vada Vriksha, Bot, etc. in the North and as Aal, Peraal, Aalmaram, etc. in the South is a very important tree in India from time immemorial. Pliny, the great traveller of ancient times refers to it as : “A tree of Hindustan that plants itself into the ground to become another tree”. The trunk of some Banyan trees are larger than four metres in girth and its canopy spreads over fifty feet and with over a thousand branches. The British found Hindu Banias sitting under Banyan trees to transact business, and so they used to call it Banyan tree. Several parts of the tree find their use in traditional medicine; stem, bark, aerial roots, leaves, buds and the milky exudate of the Banyan. An infusion of the bark is considered to cure for dysentery, diarrhoea, nervous disorders, etc. The paste of leaves

is externally applied to abscesses and boils. Its roots are cut into pieces and are used as tooth brushes. These are believed to be capable to strengthen the gums and teeth.

**Peepul** is another tree held in high esteem by the Hindus. It is called Arasu in Tamil. It is referred to by Lord Krishna in the Bhagavath Gita. Krishna says “Among the trees, I am Asvatha”, meaning Peepul. The planting of this tree is considered to be a Punya Karma or a noble act, as generations to come will be benefited by it. **Bodhi** tree, as it is called, is sacred to the Buddhists as well. Buddha is believed to have attained Nirvana or enlightenment by sitting below a Peepul tree. The tree stands for knowledge. It is also called in the North as Peepul tree, Jari, Pipoo, Raavi etc. and its seeds, leaves and tender leaves are used as a purgative. The seeds are cooling as well. It is good for bleeding piles, boils, mumps, complexion, constipation, cracks in the sole, diabetes, ear infections, etc.

**Jasmine** is another plant sought after throughout the world. Cleopatra is said to have been almost enslaved by the fragrance of jasmine and used it in her hair every day. In every South Indian home, jasmine adorns the hair of girls and ladies, especially during festival occasions. Abhidhana Manjari describes it as “Malati, the princess.....” In the North it is called Mogra and in the South as Mulla, Pichakam, Malligai, Jaji etc. It cures ear ache, head-ache, eye trouble, skin ailments, lice and dandruff, migraine, swelling, ulcers in mouth and throat, etc. Ayurveda employs its flowers as good for mental and physical ailments as well. Jasmine oil is good for the hair and is used in the manufacture of hair oils.

“**Henna** drives away fevers” says Nighantu Ratnakaram It is called Henna, Mohuz, Mendhi, Benjati, Hirra, etc. in the North and Mailanchi Azhavanam, Charanam, Goranta, etc. in the South. It is a herb sanctified by divine grace. It, again, is associated with Goddess Lakshmi and God Shani. When there is

the bad effects of Shani the devotees go round and round the plant of Sanivar (Saturday) to ward off its evils.

In Ayurveda there is no clear distinction between food and medicine. The same is applicable to cosmetics as well. Cosmetics, generally used for beautifying the body, have medicinal properties as well. Pan colours the lips but it acts as a digestive. Henna, used generally to colour the palms , nails, feet and hair is supposed to be good for health. In the North it is also used to colour the hair and it is believed to be good for the hair. Henna is a cure for leprosy according to Aswarishta Vijnanam. Ayurveda Sara Samgraha says that it is a good blood plant. The most important ingredient of Meghaneelaghrita is Henna and this is an important medicine used to treat several serious skin ailments such as leprosy, leucoderma, etc. Its leaves also have great medicinal values for haemorrhage, tuberculosis and typhoid. An oil is taken out of the flowers of Henna and this is used for preparing perfumes. The seeds serve as pesticides when powdered and soaked in water and sprayed in pest-infected trees. Henna is also used for wounds, eczema, skin diseases, ulcers, jaundice, joint pains, head ache, pneumonia, etc.

Known under different names such as **Goma**, Motapati, Bara Halkusa, etc. in the North and Tununikuru, Tumpa, etc. in the South it is a small foot shaped flower. It is called Dronapushpi in Sanskrit. This too, like some other medicinal plants, is yet another ‘weed’ that grows in waste lands and wilderness. The bites, malaria, anaemia, jaundice, asthma, diarrhoea, fatigue, eye ailments etc.,. The plant called in Sanskrit as Bahupatra, Bhummyaamlaki or Tamalak is a common weed . It is called Bhu Amla, Jungli Amla, Bhunya Anmali etc. in the North and Keezharnelli, Kerinillagida, Keezhakkannelli, etc. in the South. It is an everyman’s remedy for all ills. The leaves of this plant is unusually rich in potassium. In Ayurveda it is prescribed for body-heat, fevers, blood in urine, constipation, dysentery, eye-sight deficiencies, head-ache, itch, skin infection, jaundice, etc.

**Long pepper**, called in Sanskrit as Pipali is known as a plant possessing great healing properties for various ailments. It is known as Pipali and Magadi in Sanskrit, as Jatya, Pipul etc. in North and Tippali, Pippali, Modi, etc. in the South. It is considered to be a cure for asthma, ronchitis, diarrhoea, fatigue, influenza, throat infection, etc.

**Castor**, called as Bherenda, Diveli, Anandi,etc. in North India and Avanakka, Amanakka, Erandamu,etc. in South India is a household remedy throughout India. The oil of Castor is an excellent purgative generally given for infants and children and also for adults to clear off all impurities in the stomach. It is also a remedy for arthritis, boils, sores, dandruff, stomach ache, etc. In this connection it is interesting to note that Castor originated in Africa, and it was quite popular with the early Egyptians and believed to have been in use even in 4000 BC. Excavation from some pyramids have shown castor seeds, indicating that it was used at the time when they were constructed. Atharvaveda, an Indian text written in 2000 B.C. mentions about castor.

**Rose** is called Satapatri, Saumya, Gandha and Vrittapushpa in Sanskrit. In Northern India it is called Gulab, Golap etc. and in Southern India as Roja, Gulabi, Panneerpu etc. Satapatri is ideal for skin diseases says Dhanvantari Nighantu. There are about a thousand varities of Roses. Rose oil and Rose water are prepared out of this. Rose is widely used for perfumery and medicines. Rose hips or the remnants of the rose after the petals have fallen, are supposed to contain vitamin C. It is believed to be a cure for anaemia, angina, blood impurities, burning sensation in the eyes, burns, wounds, blood diseases, heart problems, constipation etc.

**Vibhitaki** known as bhooman, Hulluch and Bhairah in the North and Taani, Tanikka, Tandra, etc. in the South is considered to be a cure for respiratory diseases, intestinal worms, leucoderma, sore throat, wounds, etc. Taani trees give good shade in summer and in ancient days our ancestors used to plant avenues of Taani

wherever there was space. Its oil is used for giving bath to mental patients, to keep their heads cool.

**Haritaka** the Sanskrit name of which is Abhaya, Haritaki, Himaja and Pathya are known by different names. In the North, besides Haritaki it is also called Hardo, Harad, Harara, Haridra, etc. and in the South as Kadukka, Kanakka, etc. This tree, grown in the Indian sub-continent has been in medicinal use from time immemorial. The fruits of Haritaki is one of the important ingredients for preparing Triphala, an excellent remedy in Ayurveda for constipation and piles. Its seeds are capable of imparting youthful vitality to the body and it flushes out nitrogenous and other impure matter from the body. It is also an effective remedy for dysentery and diarrhoea, head ache, infection in the leg, loss of hair, mumps and whitlow.

## PATHOLOGY

Jesus once said “Do unto others as you would have them do unto you, for as you sow, so shall you reap”. Almost the same idea is expounded in the Hindu way of life as the Doctrine of Karma. This was also extended to Ayurveda to some extent, which led to the conviction that the Karma, or the doings of a past life of any individual, is the cause of health and disease, and that past Karma will have a bearing in this life. Charaka devotes a whole chapter to the theory of Karma and says that its application is important. But he also says that the efforts of the present life are also important and that certain diseases can be cured as soon as the force of the Karma is over. He is confident that most of such diseases can be cured, by careful medical treatment over a long period of time.

Ashtanga Samgraha commences with the words ‘Ragadi Roga’. The word raga means, desire, passion, heat. Desire disturbs one's equilibrium and causes diseases, according to him. According to Charaka “He who wishes to protect from harm the great organ, the heart, should scrupulously avoid anything that afflicts the mind”.

Thus disease is a creation of one's own mental and physical conditions, except in the case of those caused by outside bacteria or viruses or allergy. Diseases are also caused by accidents or other injuries to the body. The fact is, Ayurveda lays much stress on psychological factors. People have changed over the past five thousand years and there is no comparison between the Vedic age humans and the humans of the present day. The amazing control that some Yogis display over their physiological processes makes one feel that such controls could once have been more common in the people of that age.

According to Ayurveda, man derives everything essential for life through food. Food, being acted by jatharagni (gastric juices and digestive enzymes and consequent digestion, contributes to the development of suptadhatus (seven harbingers of life) namely Rasa (lymph), Rakta (blood), Mamsa (flesh), Medha (adipose tissues) Asthi (bone), Majja (bone marrow) and Sukla (reproductive element that go into the biological structure and organisation of the body.) During this process, some waste products like urine, faeces and sweat are also produced which are known as Maladhatus.

While Ayurveda recognises these Dhatus as the structural basis of the living body, it recognises three biological systems - Vata (vayu - air), Pitta (bile) and Kapha (phlegm). If these three function well, it results in good nourishment and well being of the individual, but if there is a malfunctioning of the three, it will result in Dhatuvaishamya (elemental imbalance) resulting in various types of diseases. Ayurvedic concept of physical health revolves round these Doshas and so it is called Tridoshasidhanta. This humoral theory is not only found in ancient Indian Medicine. Hippocrates, the founder of modern medicine and the Yin and Yang theory in Chinese medicine are also similar.

So the primary purpose of Ayurveda is to help people maintain Vata, Pitta and Kapha in a balanced state and thus

prevent disease. In cases where Dhatuvaishamya has already occurred the system tries to restore the balance. But Ayurveda does not pertain to bodily health alone, but also to the metaphysical and even spiritual needs of man.

Ayurveda divides Roga or disease into four categories :  
(1) Agantuga (due to external reasons) (2) Sareerika (physical)  
(3) Manasika (mental) and Savabharika (natural).

## **DIAGNOSIS AND PROGNOSIS - MATERIA MEDICA**

**C**haraka lays great emphasis on diagnosis, as correct diagnosis is essential for effective treatment. It had achieved a great degree of excellence in ancient Indian medicine. Charaka says further “The physician of knowledge who fails to enter the inner body of the patient with the lamp of knowledge and understanding can never treat diseases”. Before beginning treatment a physician examines the ten elements which are necessary to be examined. They are (1) Karana, (2) Karyayoni (3) Karya (4) Karya-phala (5) Anubandha (6) Desa (7) Kala (8) Pravarti (9) Upaya.

The physician is the cause (Karana); the medicines and instruments (Karana); the want of the equilibrium of the Dhatus (Karyayoni); the restoration of the balance (Karya); the happy state of the body and mind (Karya-phala) length of life (Anubandha); the place of the patient (Desa) the Season (Kala) the efforts of the physician Pravarthi; the qualifications of the physician, the qualities of the medicine, etc. (Upaya). Out of these, the most important is Karya Yoni, Desa and Kala. Karya Yoni is the lack of harmony among the Dhatus (the constituent elements of the body). Its examinations consists in the observation of the symptoms that show the increase or decrease of Dhatus. Desa includes both the country of the patient and the patient himself. Important factors to be ascertained in Desa are : where the patient was born, where he grew up and where he contracted the disease. The articles of food in these places and all things related to the places are also be carefully examined for diagnosis.

In Kala, the ascertainment of the period of time for which the patient may yet live is very important. Time is of two kinds, the year and its division into various seasons and the age of the patient. Knowledge of the seasons is important in connection with the prescription of medicines.

There are three methods of diagnosis. One is Aptopadesa, i.e., the instructions of the inspired or wise; the second is Pratyaksha or observation and the third Anumana or inference. Mention has already been made that diseases are caused by the malfunctioning of Vata, Pita or Kapha. Charaka and Susrutha enumerate the symptoms by means of which one can diagnose diseases.

Charaka says that much care has to be taken while diagnosing diseases. "A particular disease may operate as the Nidana or the cause of another disease or diseases." A good physician always tries to find out the actual situation.

The art of prognosis was most fully developed in Indian medicine. The origins of the art of prognosis must be traced to the desire of the physician to know the outcome of his treatment and the course the disease he was treating would take normally. Life expectancy of the patient played a great part in prognosis. To find out what are the indications for knowing life expectancy, Charaka proposes to conduct this examination by means of direct perception. The life expectancy or longevity of the person is required, to see if he has vitality in him to withstand the treatment, which at times, may be long. Apart from life expectancy, the physician is also to judge whether the disease is curable or not.

The Indian prognosis depended on two factors: firstly, the power of observation and secondly primitive norms which parake the nature of superstition. Susrutha says that a physician should not be called in on certain days, for instance, the fourth, sixth and ninth and the day of the new moon. He also says that certain portents afford an insight into future fate, like the

appearance, dress and action of the messenger sent to call the physician, the star, hour, and lunar day on which he is called, the birds seen at the time, the residence, speech and mental and bodily actions of the physician, etc.

The Indian prognosis displayed extraordinary perception and at the same time primitive superstition. For instance it was inauspicious if the messenger sent to fetch the physician was clean, dressed in white, and came riding in an ox-cart. Again, it was not auspicious if the messenger was of a higher caste, a eunuch or a woman, himself sick or cowardly, if he ran, came at midnight or midday or at the time of eclipse of the moon or if he came when the physician was asleep or lay unclothed on the ground. Good omens were: accidental encounters with a maiden on the road, a suckling woman, two Brahmins, (single Brahmin was inauspicious) a running horse, etc. A snake, oil, an enemy, a one-eyed man, etc. were considered to be bad omens. A dog or a jackal running from right to left while the physician is on his way to see the patient, or a mongoose or a chasha bird if seen on the left were considered as happy omens. Hare, a serpent, or an owl seen on either side of his path is inauspicious. The sound and sight of a goadha (donkey) or a krilalasa (an animal of the lizard variety) are both bad omens.

Both Charaka and Susrutha lay importance on the dreams of the patient. A patient who sees auspicious dreams may be diagnosed as are likely to possess long life (Dirghayus) and physicians are advised to undertake the treatment of the patient. Such dreams are: whoever (in the dream) goes toward the south (considered to be the abode of death), his body anointed with oil or grease, seated on a camel, a tiger, a donkey, a boar or a buffalo or whoever wild beasts with distorted heads sniff about the head, or whoever drinks honey or sesame oil (which form part of the offerings of the deceased), or whoever falls from the top of a hill, or whoever sees stars falling from the sky, or whoever sees a lamp extinguished, he will meet death. There are

so many such things which are considered as bad omens. These may not be discarded as superstitions. Personal experience has revealed that some symptoms really indicated the seriousness or hopelessness of case.

The Indus valley civilization was contemporaneous with the two ancient civilizations of Egypt and Mesopotomia. The earliest information of *Materia Medica* dates back to the days before Tutankhaman, i.e. 2000 B. C. The collection of vegetable, animal and mineral substances started long back. The Indian *Materia Medica* was well known. Many medicinal plants or drugs such as spikenard, cinnamon, pepper, sesame orientalia, cardamom etc., were exported to all parts of the world, mostly from Kerala. Special voyages used to be arranged to procure them.

Charaka divides medicines into the following three categories: (1) those that depend for their action upon the deities and invisible forces (2) those that depend for their action and (3) those that pertain to the application of the mind.

Of these, mantras, herbs and plants of invisible virtue (if kept in contact with the body), gems, auspicious rites, offerings in sacrifices, libations of meat and ghee on the sacred fire, performance of vows, expiatory ceremonies and rites, fasts, propitiatory rites and pilgrimages to sacred waters and places of worship, constitute medicines of the first order. Diets and articles of medicinal virtue which are applied with the aid of knowledge and reason are medicines of the second class. The third comprises of the subjugation of the mind, by withdrawing it from every kind of injurious or harmful act and object of the senses.

As already mentioned, there has been a close resemblance between the *Materia Medica* of the ancient Indians and those followed in some other countries like Egypt and Mesopotomia. But all that can be said of the Indian *Materia Medica* is that, of all the medicinal plants mentioned in it, not a single one was European. One notable fact is: while Egypt and Mesopotomia

used opium, this drug does not exist in Indian Materia Medica till centuries later. It may also be mentioned that we were the first to use mineral drugs, both externally and internally.

In Ayurveda the theory of taste (Rasa) plays an important part in the selection of medicines and diet, in diagnosing diseases and prescribing appropriate treatment.

Medicines are divided into 50 classes by Charaka, according to their supposed action on the different organs of the system, or on the particular symptoms of the disease. He also mentions about two other classes of medicines called Rasayana or Vajikarana. These are not remedies for any particular disease, but are intended to improve the general health of the patients.

Ayurvedic medicines fall into the following forms: Churna (powders), Svarasa (Juice), Kalka (paste), Kvatha (medicated oil) etc. The different modes in which medicines are applied are Vastikarma (injections into the rectum), Phalavarti (suppositories), Nasya or application in the nose, Kavala (liquids used to gargle as to), Sirovasti (application of oil to the head) etc.

## TREATMENT

**A**ccording to Ayurveda the essence of treatment is the eradication of cause of a disease. And the best way to remain healthy is the avoidance of causative factors. According to Ayurveda all desires are illusory, producing frustration when they are fulfilled. It concentrates on the effects of desire on health and the ability to function harmoniously in the relative reality of the world, rather than upon one's relationship to the Absolute Reality. So long as delusion remains, so will disease. Gautama Bhuddha allowed his monks the use of medicines and purificatory and surgical techniques because he realized that medicine, by helping to preserve the physical body, also helps to clear the mind of delusion. Vimalananda a great leader of ancient times says "that if you are sick and you want to get well, you have only two alternatives; you can develop faith in yourself, in your own healing capabilities or you can find a healer, in whom you can place your faith by following his instruction without question". Thus great emphasis was laid by Ayurveda on faith and powers of the mind.

For successful medical treatment, Charaka identifies four factors, the physician, the remedy, the nurse and the patient. The physician is required to be an expert in theory and practice, skilful, and pure in body and in mind. The remedy should be easily available, appropriate and should be of high quality. The best nurse is skilful and sympathetic. The patient, on the other hand, should be brave and able to describe his ailment. He should remember all the physician's instructions and follow them religiously. These qualities help the patient to recover more

easily. Charaka ascribes a high standard of competence to the doctors. He says, “One may survive the fall of a thunderbolt on one’s head, but one cannot escape the fatal effects of medicine prescribed by an ignorant physician”. In Rigveda a physician is compared to a warrior; Charaka compares him to a conqueror, a cook and a potter. Susrutha compares him to a chief priest at a sacrifice.

The word ‘doctor’ is derived from the Latin word meaning ‘to teach’. A physician is a temporary ‘guru’. A sincere physician must have a healthy relationship with the patient and a sort of ‘guru-sishya’ relationship should be developed between them. The patients should trust their doctors implicitly. The doctors use the trust to the patient’s advantage.

Ayurveda employs all five senses, including purification techniques, surgery, drugs, herbs, minerals, massage, acupressure, manipulation of Marmas, exercises including Yoga, Indian classical music, meditation, etc. Mantras (words of power) are still employed by some Ayurvedic physicians. Amas or toxins are accumulated in our body from time to time. These toxins have to be removed to make one’s body pure. For this, various methods are used by the physician. Oil massage is one such method. In Ayurveda a disease is eradicated gradually and not in a hurry. Similarly the treatment is never stopped abruptly, but gradually, to give the body time to acclimatise itself. Everything is done according to a plan.

As already mentioned, according to Ayurveda diseases are caused by three Doshas in Vata (air), Pitta (bile) and Kapha (Phlem). When more than one Dosha is involved, the strongest is to be controlled first, then Pitta and then Kapha. This approach has been recommended by Vaghbata and it is generally accepted, even by Susrutha. In Ayurvedic treatments, Ama or accumulation of tissues is combatted by prescribing fast. This is a sort of purification of the body before the commencement of treatment. Absolute fasting from food or even water is prescribed at times.

This is for a maximum period of two days when a patient is clogged with Ama. After the treatment is over, a period of convalescence is prescribed, during which dietary and other restrictions are enforced. Relapse is possible if any of the rules of convalescence is neglected.

Oil or ghee is given in certain cases. This is called unctuous treatment. After this treatment, sweating is recommended. This is done by various methods such as external application of heat, covering the body with blankets, sun-bathing, exposure to fire, etc.

Panchakarma or ‘five actions’ is a method followed in Ayurveda to rid the body of toxins. These are vomiting, purgation, nasal medication and blood-letting. You take an old, dry stick and bend it, it will break. But if you soak it in oil and then warm it gently, it will regain its suppleness and you can then bend it with ease. The Panchakarma, likewise, gives a suppleness to the body. In olden days such purifications used to commence with rituals, invocations to various deities and initiation at an auspicious time.

Vomiting is usually induced in the morning for fever, respiratory troubles, etc. The most important medicine used in Ayurveda is Madana, identified in Kerala as Catunaregam spinosa and in most of the rest of India as Randia demotorum. Other medicines used for making a patient vomit include calamus root, liquorice root, mustard seeds and common salt. The purgatives used in Ayurveda include castor oil, triphals, cow’s urine, etc.

Enema is different from purgation in that it does not deplete the system of digestive juices and can be used to nourish the system as well as to purify it. It is different from the enema of the Allopathic system. Here medicines are given to the patient to be taken orally instead of inserting a tube or something. One popular enema recipe is the so-called oil and honey enema, plus decoction of castor roots, rock salt and dill. Head enema is given mostly for vata diseases of the head insomnia, head-ache, facial

paralysis, etc. This is an elaborate process.

Nasal medication is given for all diseases of the head. A good daily routine includes the introduction of medicated oil drops or ghee. Blood-letting is mainly used for abscesses and other infections, for congestion of blood in the liver or spleen, for some types of chronic head-ache, for varicoase veins and some varieties of head neck tumours, hydrocele, etc. Leeches are used for local ailments and venepuncture for systemic problems. Blood-letting is done in almost all parts of the body.

Treatment by fire was also practised by Ayurvedic physicians for ailments, such as piles, ulcers, hernia, growths, inflammation, etc.

The sole objective of Ayurveda is to advise diet, medicine and a way of life, which, if properly followed, normal healthy person may maintain the balance of the Dhatus and one who had lost this may regain it. Treatment is given with a view to perpetuate the harmony of the Dhatus, prevent their disharmony and to bring back to their normal state of equilibrium when their harmony is disturbed by any reason.

Preservation of health was the main aim of Ayurveda and for this purpose Charaka and Susrutha give regulations with regard to food, deportment or behaviour concerning daily life of an individual, etc. These include daily ablution, regularity, cleaning the teeth with a fresh stick which is to be taken from the branches of certain trees like Neem, scraping the tongue, rinsing the mouth, washing the face, anointing the body with a sweet-smelling oil, oiling the head, ears and soles of the feet before bath, care of the mouth with betel leaves, camphor, cardamom. Care of the hair, beard and nails (the latter were to be pared every five days) etc. Similarly meals and diet, exercise, rest and massage were also prescribed.

The seasons of the year have also an effect on the human body. The dietic regulations varied with the season and great attention was paid to the climatic conditions. Charaka describes

this in the portion Ritucharya in which he gives the dietary regulations for each season. He divides the year into six seasons, Hemanta, Sisira, Vasanta, Grishma, Varsha and Sarath. Hemanta (the cold season) lasts from 15 November to the 15 January, Vasanta (the spring or the season of flowers) from the 15 March to the 15 July. Varsh (the monsoon season) from the 15 July to the 15 September and Sarath (autumn) from the 15 September to the 15 November. He recommends diet in great detail for each Ritu or season.

Ayurveda cares not only for the health of the body but also of the mind. Charaka, when speaking of life, also includes both body and mind in it. Physical diseases are to be cured by medicine, while mental diseases are to be cured by right and proper knowledge, self-control and self-concentration. He advises that a person should not be a prey to anger, jealousy and many other bad qualities. He gives a long list of does and don'ts.

Charaka lays down the following principles as regards treatment: "We treat patients suffering from particular diseases with medicine possessed of virtues opposed to their symptoms. A patient whose Doshas have been dried up is treated with cures having opposite virtues. A lean and weak man is fattened and strengthened. A fat person is reduced to proper dimensions. A patient whose system has become warm is treated with drugs possessing cooling properties. When the ingredients of a patient's body become diminished, they are restored to their proper level. When certain ingredients increase to abnormal proportions, they are reduced to their normal level. Thus the patients are restored to their normal condition by way of treating the diseases with medicines endowed with virtues opposed to their original causes".

## SURGERY

**S**urgery is generally called in Ayurveda as Salya. Salya is divided into two divisions: Salya and Salakya. Salya deals with extraction of external objects which have accidentally entered the body such as arrows, wood, stones, earth, iron, fragments of bricks, bones, etc. Salakya treats diseases of the ears, eyes, mouth, nose and other parts of the body above the collar-bone.

The use of surgery started from warfare. The Aryan invaders of India had to fight fierce wars with the inhabitants of Indus valley before they conquered them. In the process surgeons were frequently required to attend to the wounded. We read of amputations of legs by the surgeons of the Gods - the Aswini Kumaras. During the war with his father-in-law Daksha, Siva cut off his head and it is believed that the surgeons of the Gods repaired the damage and they successfully fixed the head to the trunk and restored Daksha to life, much to the happiness of his daughter Dakshayani or Parvathi.

In olden days surgery was considered as the most important branch of medicine. In Ayurveda it is given the first place and heads the eight divisions of medicine. From the very beginning, two schools of medicine have been recognised, that of Atreya, of medicine proper, and that of Dhanvantari, of surgery. Dhanvantari, while introducing Susrutha to the art of surgery, says:

“Salyatantra is considered the most important of the eight branches of medical science on account of the cures effected by it being rapid and striking, teaching the use of blunt weapons, cutting instruments, burning to destroy infection, etc. and its

principles being applicable to all other sections. Therefore, this portion of Ayurveda is eternal and holy and a way to go to heaven, fame, longevity and wealth". Susrutha says: "Associated primarily with warfare, surgery for a long time remained a special branch, distinct from the science of longevity (Ayurveda). It needed a particular effect, a stroke of genius, to break down the barriers of traditional specialisation and to merge surgery with the science of macrobiotics." This step is accomplished through the work of Susrutha. In Susrutha's Samhita; surgery attained a leading position as an indispensable element of general medical training. And one may say his emphatic statement of its incomparable value for a correct understanding of anatomy reflects a triumph in the evolution of Indian medicine. Susrutha declares "He who has observed the internal mechanism of the human body is well-read in the works bearing on these subjects and has all his doubts cleared and is alone qualified in the science of healing". He further continues "This accurate account of the parts of the body, extending as far as the skin, is not to be found in any other part of medical teaching, but only in the doctrine of surgery. Therefore, the surgeon who is seeking a thoroughly reliable knowledge must duly prepare a dead body and carefully ascertain its parts. For, by putting together what he perceives with his own eyes with what he has learnt from valid tradition through text-books, he will increase his wisdom".

Knowledge of the Marmas is absolutely necessary for a surgeon. It has always been a matter of surprise how the ancients carried out major surgery in the absence of Anesthetics, Haemostatics and Antiseptics. Foreign bodies were extracted and abscesses opened with thorns or other sharp pointed objects. In the treatment of wounds, suction was employed, sometimes even a species of drainage by means of sections of bamboo; stitching or tight bandaging, to promote union.

Cupping and blood-letting were widespread methods of treatment. Operation upon veins was performed with splinters of

stone or kinves. Other instruments used were bone tubes, oxen or buffalo horns, thorns, fish bones, etc. In the absence of the modern methods of Anasthesia, stupefaction by narcotics and hypnotism preceded operations. The success of such operations depended mostly on the high degree of health possessed by the people of those days. It is amazing that the ancient Indians performed surgery and perfected the art within their available means. Surgical operations were performed on an auspicious lunar day, star, and moment, after worshipping or propitinating the god of fire and Brahamans and physicians, with curdled milk, rice, drinks, and jewels and after offering presents or blessings.

The patients should take only light food, which he likes best. He should also be given wine to drink before the operation, so that he may not faint and may not become sensitive to pricking of the knife or other surgical instruments.

Indians were the first to use leeches for extraction of blood. This mode of bleeding was considered to be the mildest method. This is done when the patient is old or imbecile or a women, infant, or a person without strength of mind, or of delicate constitution. Detailed instructions for preservation and application of leeches are given in Susrutha Samhita. Cupping of blood is another mild form of treatment.

The surgeons were expected to avoid Marmas (vital parts of the body) at the time of operation. The surgery of the ancient Indians attained remarkable heights. Susrutha deals with most of the surgical problems, discussing their causes, symptoms, complications and treatment. The diseases recommended for surgery are: Haemorhoids, Urinary Calculi, Fistula, Ascites, Absecesses, Hydrocele, Hernia, Scrotal tumours, Fractures, dislocations, etc. Surgery is resorted to only when medical treatment fails.

Susrutha differs from Charaka as regards surgery. The former says that surgery is the best medicine because it produces instantaneous action and immediate results. Charaka, however,

believes that surgery is as important as internal medicine but he favours internal medicine more than surgery and surgery was given only a secondary place by him. It is interesting to know that surgery was prevalent even at the time of Lord Buddha. He allowed his monks to practise medicine including surgery. One of his disciples, Jivaka, later became famous. With the result at one point of time, most of the citizens of Magadha joined Buddhism, to avail themselves of his treatment. Buddha consequently prohibited anyone who was ill from being accepted into the fold, as he knew that they offered to join Buddhism to avail of Jivaka's treatment. There is an interesting story that Lord Buddha sent Jivaka for his examination: to search within a radius of several miles for any plant bereft of medicinal value. Jivaka passed his exam., when he returned unable to find any such plant, and it is still an article of faith in Ayurveda that no plant exists in the world that cannot be used as medicine.

It is learnt that during the Nineteenth Century the Germans translated from Susrutha's Samihitas (details of an operation) for repair of damaged noses and ears. This operation, which now appears in modern text-books as pedicle graft, led to the development of plastic surgery as an independent surgery system. Today Susrutha is regarded by plastic surgeons all around the world as the father of their craft. Skin grafting and operation for cataract and bladder stone were still being performed by Ayurvedic surgeons in India as late as the Eighteenth Century. The decline in Ayurvedic surgery was due to two factors. One is the Buddhists and their doctrine of non-violence for discouraging injury to the body. Although the Buddha himself did not object to operation when it was necessary, his followers carried the principle of non-violence to an absurd limit. The other factor is the advancement of surgery in Allopathy, with its latest implements and new improved methods in highly hygenic surroundings. Political patronage has also been an important factor in the spread of Allopathy in India and at one time the Government of India

spent more money on Allopathic medicine than on all other systems of medicine combined. Later on, after India attained Independence there was a change in policy. Ayurveda and other Indian medical systems were given a lift during V.P. Singh's Government. Even in the Contributory Health Scheme of the Central Government employees, Ayurvedic, Homeopathic and Unani Dispensaries came to be established. Shri Raja Narayan, the Health Minister of that time, appointed bare-foot Doctors in rural areas to tackle health problems in the villages.

About surgery there are some references in the Rig Veda. The wife of king Kharlan is reported to have gone to the battlefield and the enemies cut off one of her legs. In accordance with the advice of Aswini Devatas, the broken leg was replaced by an iron leg, which enabled her to walk properly. Another story relates to Lord Indra. He gave some secret advice to Dadhicha, one of his disciples and at the same time told him that he would cut off his head if he divulges the secrets to anybody. Aswini Devatas wanted to know what the secret advice was. So Dadhicha's head was cut off by them and in its place a horse's head was placed. Aswini Devatas got the secrets from out of the horse-mouth of Dadhicha. Knowing this, Indra cut off the horse-head of Dadhicha. Thereafter the Aswini Devatas replaced the head of Dadhicha which they had kept with them and he regained his former form. From such stories it may be presumed that through a proper surgical process even heads could be replaced in olden times.

Kalarippayattu was an ancient martial art practised in Kerala, mostly in North Kerala. While practising or performing it, people met with injuries, generally fractures and dislocation of bones. To cater to this art and accidents met with during the performance of it, a special branch of Ayurveda developed. Among its physicians there were excellent bonesetters. Even though Ayurvedic oils and other medicines were used, methods adopted were slightly different.

## **OPHTHALMOLOGY \* OBSTERICS \* GYNAECOLOGY \* PAEDIATRICS**

**S**usrutha gives a number of eye-diseases - 77 in number-of which ten are due to Vata Dosha, Thirteen to Kapha Dosha, sixteen to Rakta Dosha (vitiated blood) and twenty-five caused by the united action of the three Doshas, and two due to external causes (visible or invisible injury). He adds Kukunaka as the 77th. Mhaskar, after collecting all the available data from the literature and after a careful scrutiny of the same, came to the conclusion than the number of eye diseases is 82, 77 of which are those enumerated by Susrutha and the rest added by Vaghbata.

Most of the common diseases of the eye were known to Susrutha. It is, however, not possible to identify everyone of the 76 he describes. Mhaskar has identified many of these diseases and has indicated the nearest Western equivalents for the Ayurvedic terminology. Susrutha divides the diseases into seven groups based on their location. These are: (1) Sandhigata Roga (diseases of the eye-joints) (2) Pakshamata Sandhigata Roga (diseases of the eye-lashes) (3) Vartmagatha Roga (diseases of the eye-lid) (4) Servagatha Roga (diseases of the whole eye-ball) (5) Suklagatha Roga (diseases of the sclerotic (6) Krishngatha Roga (diseases of the visual region).

As regards the surgical treatment of eye-diseases 11 should be treated with Chhedya (incision), 9 with Lekkya (scarification), 5 with Bedya (excision), 15 with Sira-vyadhy (venesection), while 12 should not be operated upon. 9 admit only Yanya (palliative measures) and 15 eye-diseases should be given up by an experienced surgeon as incurable.

In olden days, owing to the social custom of the times, women did not seek the help of physicians or surgeons even for delivery. It was handled mainly by midwives. In every village there were experienced midwives. This was the practice 70 years ago even after the advent of Allopathy. The only difference was that they were trained in accordance with Allopathic system. But even now in tribal areas and less advanced regions of our country, midwives, who learn by experience, attend to delivery cases. Both Charaka and Susrutha discuss the subjects of Obstetrics (child birth) and Gynaecology (diseases of women) at some length in their Samhitas generally. Charaka concerns himself mainly with the medical aspects of Gynaecology and with normal pregnancy and delivery. Susrutha deals, in addition, with the surgical aspects of Obstetrics.

Paediatrics is not dealt with separately either by Charaka or Susrutha. They are concerned mainly with those diseases produced by the derangement of Doshas and no mention is made of the special diseases of children.

But, Paediatrics was in vogue from very ancient times. It was called Bala Chikitsa - 'Bala' meaning children and 'chikitsa' treatment. Even in Vedic medicine we have references to children's diseases. In Atharva Veda there is reference regarding diseases of children. Paediatrics in ancient Ayurveda deals with (1) nursing and upbringing of infants and children (2) purification and improvement of breast-milk, which was the main food given to children and (3) treatment of diseases caused by vitiated breast-milk, of diseases peculiar to infant life and of diseases due to malignant stars. In those days much importance was given to Astrology and Horoscope. A horoscope used to be prepared by an astrologer as soon as a child was born. Charaka and Susrutha believed that childhood extended upto sixteen years.

Child-care was dealt with extensively from child-birth onwards. Even the food to be given for children was laid down.

## *Ophthalmology\* Obstetrics*

On the 10th day the rites of benediction should be performed and the child should be given a name.

A child should always be kept inside the house. It should not be kept in an unclean place, under the sky, or on uneven ground, nor should it be exposed to heat, storm, rain, dust and smoke. The child should not be placed under a tree or a creeper, nor exposed to lightning. It should not be kept in a lonely house or in the shadow of one either.

The child should be so handled as not to cause discomfort to it. It should never be frightened or threatened, nor it should be awakened suddenly so as to startle it, or lifted suddenly or flung aloft as there is risk of derangement of the bodily Vayu. An attempt to make the child sit up before it has learnt to sit steadily, may make it a hunchback. It should be fondled lovingly and amused with toys and other playthings.

It is surprising that even in those days clear-cut rules were prescribed for the upbringing of a child. The importance of breast-milk has already been mentioned. If the mother is not having enough milk in her breasts to feed the child, it is recommended that a wet-nurse be found. The qualifications for a wet-nurse have been elaborately described. For example, for the healthy growth of a child the wet-nurse should be born in the same country. She should be of good character, of respectable parentage and possessed of many good qualities like patience, sincerity, honesty, etc. She should be pure in mind and body and averse to anything impure. She should be of sound health.

Breast-milk is the best of all nutritive substances. It is heavy, sweet, cold, glossy laxative and mild, says Susrutha.

Vitiated breast-milk causes diseases in children. Susrutha prescribes methods for testing breast-milk. He also lays down the reasons which vitiate breast-milk, viz, excessive use of wine by mothers, eating of flesh of animals living in marshy places, etc. It may also be the result of excessive joy, contentment, peace of mind, absence of exertion, etc.

Susrutha says that the natural food for infants is the mother's milk, but if human milk cannot be obtained, that of a she-goat or a healthy cow should be given in the quantity necessary to satisfy the child.

## **AYURVEDA FOR ANIMALS, BIRDS, TREES ETC.**

**A**s already mentioned Ayurveda does not confine itself to the health and longevity of human beings. Its domain extends to the world of animals, birds, plants and trees as well. From very early days a part of a division of Ayurveda pertained to the treatment of animals and trees. Aswachikitsa, Gajachikitsa, Pasupalanam and Vrikshayurvedam respectively deal with the treatment for horse, elephant, cows and trees. These sciences developed side by side with the medical science for human beings.

Even during Vedic times, the anatomy and the various parts of the body structure of the animals were well-known and there were different names for different parts of the animals. Treatment for diseases for horse, deer, sheep, goat, camel, elephant, serpent and even rats were prescribed in the texts. Instructions are laid down even for giving enema for some of these animals.

Among the physicians who prescribed treatment for animals the foremost is Shalihotra. He is supposed to have derived knowledge from Braham, the Creator. Hayayurveda, Aswayurveda, Thurangasasthra are some of the sastras available in this category. There were treatment for fishes and birds too: Matsyapurana, Garudapurana are examples. Easily available texts are for the treatment of diseases of horses and elephants. It may be mentioned that in olden times these two animals were more important because they were used by the army and as carriers of vehicles and loads.

People who started learning Ayurveda had also to study the science dealing with animals. Salihotra deals with horses and the treatment given to their diseases. This part is known as Hayayurveda, Aswayurveda and Turangasastra. Another physician who deals with the same subject is Gorgan. It is seen in some other books also. Some of these books, it is learnt, is available in Calcutta Oriental Series. A book called Manapriyamatham describes what is good and what is not good for the horses, how their age can be calculated, etc. Gajachikitsasastran, another book which deals with horses has been published from Pune in the Anandashram Sanskrit series. Al Baruni, a famous traveller, frequently quotes from this. There are books on birds, as well. For instance Sainyasastra deals with kites-how to tame them up, what treatment is to be given to the diseases prevalent among them etc.

It is interesting to note that Salihotra's work on treatment to animals has been translated into languages like Urdu, Arabic and Persian.

From all these it can be presumed that animal husbandry was developed in India from time immemorial. It is believed that Salihotra was born much before Christ and it can be safely said that the veterinary science existed decades before they were known by the Westerners.

There is a great book called Palakapyam which deals all about elephant - what diseases they get and how to cure them. This book also was published in the Anandashram, Pune and included in Tanjore MSS. This is supposed to have been written by Palkapyan, a contemporary of Dasaratha. He was invited by the Raja of Champa for consultations. Champa is believed to have been situated about 25 miles from the present Bhagalpur, according to Lord Cunningham. Fahian, a traveller from China, says that Champa was a big place consisting of many Buddhist stupas and viharas. It seems the Raja of Champa was very much interested in training elephants and that was how

Palakapya was invited to his court. Palakapya also contains information as to how good elephants can be selected, how they can be trained, what is the good food to be given to them and about their behaviour. It is, so to say, an encyclopaedia about elephants.

The next treatise of importance is Salyasthana. There are 34 chapters in it which deal with the normal (vital points) of elephants, treatment for various ailments of elephants, instructions to Mahouts, etc.

It is known that, king Roinafada invited many saints and physicians to take part in discussions, consisting of great masters like Kasyapa, Bhardwaja and others. Thus it will be seen that all information and treatments required for elephants were thrashed out and researched in detail. In the Ayurvedic veterinary science, elephants' and horses' diseases and cures form an important wing.

Vrikshayurveda or Ayurveda for trees and plants developed at later stage in the history of Ayurveda. Most of the medicines prepared in ancient days were prepared from plants. This is the reason why the saints planted and nursed many plants and trees in the precincts of their Ashrams. India, being an agricultural country, great importance was given to pure medicines taken out of fresh plants. Similary the forests, which were store houses of medicinal plants, were adored and protected by our ancient physicians and those who were interested in preparing medicines.

This branch of Ayurveda is a mixture of Botany and Agricultural science. It starts with the preservation of seeds, categorising them and includes the study of soil to know which is best, how to nurture the seedlings, the care to be taken for their healthy growth, manure, transplantation, how to keep the surroundings in such a way as to help the growth of plants. In Buddhist literature there is the story of Bhikshu Atreya who asked his disciple Jeevaka to describe the importance of plants

within a prescribed area and gave satisfactory answers and thereafter the Bikshu blessed him and thus ended the latter this studies in Taxila, the original name of which was Takshasila. But the original Sanskrit texts of Vrikshayurveda are not available now. The texts are: Vrikshayurveda and Bheshajayurveda. We have, however, a Telugu publication by name Vrikshayurveda. This was written by Vavila Ramaswami

The growth of Ayurveda can be divided into three parts. The first phase is from Vedik Times to Gupta period (600 A.D.). The second is from 601 to 1536 A.D. and the third from 1537 A. D. to the modern times.

In due course many books came to be written on Vrikshayurveda. It was the Portuguese who started the study on the subject. Gracia d'Orta's (*Cologuior Dos Simplex Edragos Da India*) is a book on the plants of medicinal value. After him several people turned their attention to this subject. The most important book on this subject was the one prepared by Henry Wanreed, a Dutch Governor, called Hortes Malabaricus. John Herard Koenig, a Dutch Botanist, in association with Hene, Claine, Rotler and some others started a society called "United Brothers" at Tranquebar. Their main aim was to make a study of Indian plants. They researched on the subject and the result of their studies were sent to Europe for further investigation.

It was Lt. Col. Robert Kyid who founded the Royal Botanical Gardens at Calcutta. The main idea of starting this was more commercial. He wanted to make a study of Teak, some fragrant Malayan herbs, etc. But it later on developed into the first authoritative institution for the study of Indian plants.

After Kyid came Roxberg. His two works '*The Plants of the coast of Coromandel Flora India*' and '*Hortus Bengalensis*' were greatly appreciated. The name of Griffith is remembered as the man who collected nearly nine thousand species from all over India, Burma, Malacca, Bhutan and Sikkim. In 1820

another research centre for experimenting on plants was set up at Saharanpur. The European researchers divided themselves into groups and made elaborate studies on Indian plants and wrote several books. J. C. Bose's Bose Research Institute, established in 1917 is another landmark in the history of the study of plants in India. Bose demonstrated how the plants breathed, their feelings grew etc. in his institute. In Santhi Parva of the Mahabharata Bhrigu and Bhardwaja discuss about the behaviour of plants just like human beings, how they feel sorrow and happiness, their intelligence etc.

Vavala's book, the Telugu version of which is available now gives various information regarding ecology. He even describes how have gardens are to set up and what all trees and plants are to be planted in which parts of the garden. He even gives information on when to plant trees, how they are planted, how to nurture them, how to cure the diseases contracted by trees and plants, how to water them, etc. For instance he says that during summer they are to be watered before sunrise and after sunset. In the monsoon season water is to be poured only after examining the lower portion of a plant to see whether it is dry. He also narrates what types of manure is to be applied to get best results. He says that just as in human beings, Vatha, Pitha and Kapha acts in the case of plants and trees also and the remedies are also suggested. Our old ancestors respected and adored trees and plants in a much greater degree than us. Trees were even offered *pujas*. It was believed that rearing up one tree was equivalent to rearing up ten children, with the resultant blessings.

Birds also were cared for and hospitals were set up to give treatment to them. With the advent of Jainism more importance was given to this branch. Even now there is a huge hospital for birds in Chandni Chowk in Delhi. Fishes were also given prominence by us from very ancient times. In the rivers and tanks adjoining to temples it was customary to feed them. For

instance in Thriprayar Temple in Kerala, the feasting of fishes is an offering to the Deity. In Hardwar, Rishikesh and other places in North India they are considered sacred and fishes are being fed with rice and other things on special occasions.



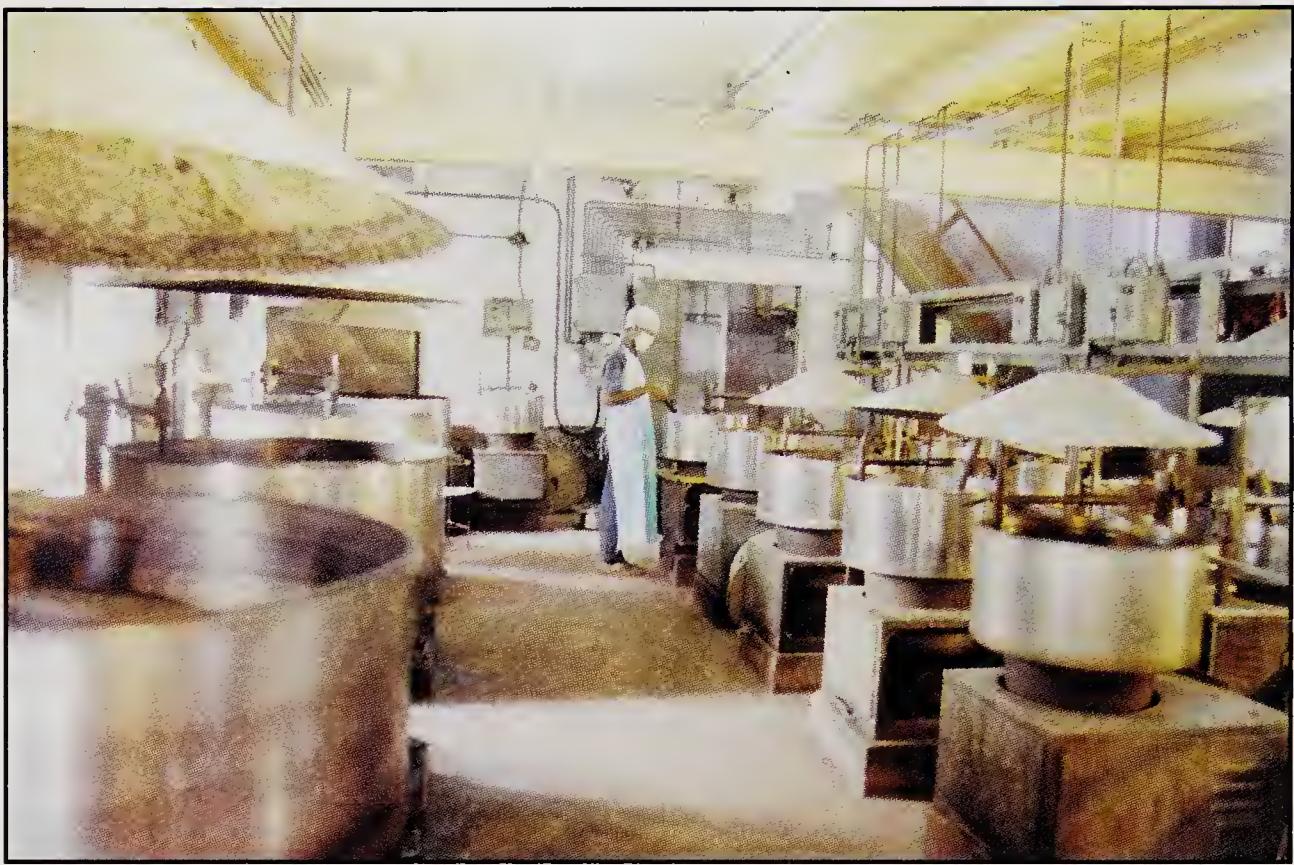
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## **THE GROWTH OF AYURVEDA : SAMHITAS,GREAT MASTER'S BOOKS ON AYURVEDA, RASACHIKITSA**

**T**here are two phases in the growth of Ayurveda. The first is from the beginning upto the 18th century and the second from the 18th to the present day. In the first phase we see that the society took over the responsibility of giving education to the younger generation. Education and knowledge were considered to be essential for the development of man. This was also necessary for prosperity and destruction of enemies.

During the time of Samhitas great care was taken for the selection of students for Ayurveda.

Kasi was the nerve-centre of Ayurveda learning during this time. Later, it is reported in Buddhistic literature, that the Yuva Raja (heir apparent) of Kasi went to Thakshasila to learn Ayurveda. This indicates that for the study of Ayurveda the importance of Kasi gradually declined and Thakshasila took its place. But certain historical records say that later on Kasi regained its lost prominence.

Two other places in Uttar Pradesh, viz. Panchala and Kampilla are also considered to be important as far as Ayurveda is concerned. The great master Charaka seems to have gone to the palace at Kampilla and also Panchala for discussions and discourses. In Nalanda University also certain branches of Ayurveda were being taught.

The age of Buddha gave immense growth to Ayurveda. Ashoka had set up separate hospitals for human beings as well as for animals. Ashokan edicts gave much importance to treatment

and medicines. The great Buddhist monk Tathagatha gave instructions on medical science also along with his moral instructions. He also advised his disciples to spread the importance and efficiency of medical treatment. Buddha was called Bhaishaja Guru meaning the preceptor of all physicians. This period produced the great master in medical science, Jeevaka.

There is an interesting story connected with Jeevaka. Jeevaka is believed to be the illegitimate son of one Salavathi of Rajagriha (Rajgir which was in Bihar). After birth, a maid of Salavathi put the baby in a basket and left it in a lonely place. Prince Abhaya of Rajagriha happened to see the basket containing the baby, took the baby to the palace and brought him up. This boy grew up and to become a physician went to Takshsila and learned Ayurveda. He spent seven years in Takshsila and learned physical medicine and surgery. Jeevaka mastered medical science from there and on his return journey he came to Magadha. There he met a patient who had constant head-ache for seven years. He treated her with Ghritanasya - a sort of treatment through nasal inhalation - and she was completely cured of it. Her husband happened to be a wealthy merchant and he gave Jeevaka a huge amount of money. Besides, he was presented with a Rath (Chariot) and a number of male and maid servants. With these Jeevaka reached Rajgriha. He wanted to give all his earnings to Abhaya, the prince, his benefactor. But he refused to take them and asked Jeevaka to keep them with him. The Prince made him stay in his palace. Thereafter he cured Bimbisara the King of Magadha, who was suffering from a serious stomach ailment called *bhagandara*, by using only a simple medicine. The King was very much pleased with Jeevaka and he presented him with a hundred beautiful girls. He also requested him to be the physician of many Buddhist monks who were staying in a monastery inside the palace.

Jeevaka's great achievement was in performing a difficult operation on one Seth, who was suffering from serious headache for several years. With a medicine he made the patient

unconscious and the operation was conducted skilfully by opening up his cranium, removed two worms from it, and the two pieces of cranium were stitched together. In a few days Seth was quite alright. Seth gave him a good amount of money.

Prince Abhaya asked him to treat the son of a merchant who was suffering from stomach ailment and who was not responding to treatment. Immediately he went there, saw the patient and operated upon his stomach. The boy was completely cured.

Later he was sent by the prince of Ujjain with instructions to treat Pradyotha, the King of Ujjain, who was suffering from Leucoderma. First he administered *ghrita*, a medicine. The King refused to take it as he didn't like its taste. Thereafter Jeevaka gave him another medicine - a decoction. But he was slightly suspicious of its after-effect. So, without waiting further, he mounted on his elephant and left for Rajagriha. Due to the wonderful efficacy of his medicine, the King of Ujjain was completely cured of Leucoderma. He was immensely pleased and sent him many costly presents. Jeevaka became more famous when he cured Buddha, who was stricken by a serious sickness and he was summoned to his bedside by Ananda, one of Buddha's trusted disciples. Buddha was cured within a few days by Jeevaka. He also left some articles for the use of Buddhist monks, out of the innumerable presents given by the King of Ujjain, including some animal skins.

Mention has already been made of Susrutha and Charaka, the two great masters who contributed greatly in the development of Ayurveda. Another master is Kashyapa. It is said that there was great confusion and chaos after the famous Daksha performed the Yagna, the father of Parvathi, the consort of Siva. It is believed that after the Yagna or sacrifice, many Gods fell ill and with the help of Brahma and by his own powers gained by meditation, Kashyapa, a great saint cured them. He later wrote Kashyapa Samhita. This treatise is considered to be older than

those of Susrutha and Charaka. It was published only recently but the beginning and end of the treatise were missing. Kashyapa's two other renowned contemporaries were Atri and Bhrigu.

Vatsya is another famous name in the history of Ayurveda. He derived his knowledge from Anayasa, another great master. Anayasa is believed to have been born in Kausanili (the present Kosam near Allahabad).

Another name worth mentioning in this context is Nagarjuna. The great traveller Alberuni in his travelogues mentions about Nagarjuna, who lived 800 years before Christ. The Chinese Traveller Hyuen Sang also mentions about him.

Nagarjuna is believed to have been an expert in Rasathantha. Traveller Alberuni has recorded that before 100 years back there was a famous physician by name Nagarjuna, who was famous in Rasayana treatment. Hyuen Sang the Chinese traveller who came to India in the 7th century, says about one Nagarjuna who was well versed in Rasa Chikitsa and he could turn stones into gold. It seems he could change stones into silver as well. It is said that after making gold and silver Nagarjuna could utilise them for relief work during famine time. In Tibet there is a picture of Nagarjuna with six snakes adorning his head. Later, a replica of this picture in bronze came into the hands of Smt. Vijaya Lakshmi Pandit and she presented it to Dr. Raghuviraji and he has published a picture of the same in his Anglo-Hindi Encyclopaedia. This establishes Nagarjuna's popularity in Tibet as well.

Bela, a disciple of Atreya, was another luminary in the history of Ayurveda. He is considered to be the inventor of Sahacharathi Taila, an oil of great importance. Bela's treatise might not have attained the same eminence as the treatises of Susrutha and Charaka. But Bela's contributions were recognised by all well-known physicians.

Pushkalavatha was another scholar of importance. He

probably belonged to Pushkala; about which Greek scholars like Ptolemy describes. Pushkala was a renowned city during the invasion of Alexander and it is believed to be the Capital of Gandhara. He was considered to be a reputed Surgeon in his time.

One of Pushkala's renowned contemporaries was Karaveerya. Probably he got his name from Karaveerapuram or, because of his skill in surgery he got the name (Karaveera-skill of hands). He is considered to have been popular in Persia (the present day Iran) as the physician who introduced surgery there. There is evidence that the great texts on medicine from India were respected and studied earnestly there.

The disciples of Susrutha and Sivodasa had their influence inside and outside India. In Iran and some other Central Asian countries their influence was keenly felt. There is a close resemblance in some words used here and in Iran and Sumeria. In Rig Veda a physician is called Bhishak and the word used for medicine is Bishaj. In Iran they are called Bhijishk and Bheshaj. There are some other words also which bear close resemblance. This establishes the fact that there was interconnection between Ayurveda and the other medical systems available in those countries. It is said that Buddha as well as Asoka sent some learned physicians of India to other countries. This may be one of the reasons for the spread of Ayurveda to the neighbouring countries.

It may be presumed that Ayurveda attained maximum popularity during the Buddhistic period. Famous among its medical systems is Mahamayoori Vidya. If this Vidya is practised the human body becomes immune to diseases and all poisons. It is said that when Prabhakara Vardhana was in his death bed Mahamayuri Vidya was narrated by his physicians and he got great relief.

During this period Takshasila was the most famous Ayurvedic University. Chandragupta Maurya is supposed to have studied there. Chanakya and Panini were teaching there. In

this university equal importance was given to medicine and surgery. As already mentioned, Jeevaka was one of the most distinguished students of Takshashila.

Surgery suffered a set-back gradually. To some extent this was due to the reluctance of Buddhists to harm anything. Another set back for Ayurveda was the Brahmin supremacy which slowly came into being. Brahmins considered it a sin to cut open flesh. They had also strong abhorrence towards oozing blood, pus, etc.

Emperor Asoka took great care of the welfare, well-being and health of his people. He not only established hospitals for men and animals but also arranged to plant trees on both sides of the roads, parks etc. He sent his physicians to places like Ceylon, Tibet, Central Asian countries and even to China. Thus, with Buddhism Ayurveda also flourished in many such places. Some books were translated into Chinese. Similarly in Western medical systems also Ayurveda exercised immense influence.

Coming to the works on Ayurveda mention has to be made of Atreya's teaching and instructions. Atreya, like other great teachers, did not remain at one place. He travelled with his disciples to various parts of the country. At one time he was in the Himalayas, at other times on the banks of Ganga or in Chaitra forests or in Panchala. He gave advice on various health problems as and when they arose on his way. These were taken down by his pupils and codified. This work was mainly done by one of his renowned disciples, Agnivesa. This compilation came to be known as Agniveshasamhita. Veghbata, another author on Ayurveda depends mainly on Athreya's advice and instructions. He says that he only condensed them. This was further edited and consensed by Charaka. Thus the old work assumed a new form. This was further edited by Dridhabala who belonged to Kashmir and who is believed to have lived three to four centuries before Christ.

The discovery of Mercury revolutionised medical system.

Mercury mines existed in Italy, Spain and California. In India the treatment with Mercury was called Rasathanthram, Rasam meaning Mercury. Mercury mines are about 3000 years old. Rasasaram is a book on Rasathanthra. In it, it is recommended that one should face west before beginning the treatment since mercury came from the west.

Nagarjuna is supposed to have written three books on Rasathanathra. They are: Rasarathnakaram, Rasendramangalam and Kakshafutam. It is believed that Huen Sang received the first two books of Nagarjuna mentioned above.

Other learned men of repute who practised Rasathanthra are: Bhairavandayogi, Bhaluki, Nandeeswaran, Kambali, Vyali, Nagabodhi, Rishi Sringan, Swacchandabhairawan and Karavalabhairavan.

It has already been mentioned that mercury was first discovered in the West. But this science developed fully only after seven hundred years. It became the practice to go there and study this and Nagarjuna is believed to be one of them. Some other learned men might have also gone there and studied. But since none recorded it we are not aware of full details. Mercury is silver coloured and never stagnant. But attempts were made by Indian scientists to solidify it through meditation and *mantras*. A scientist by name Rasangusa made this possible and hence his name.

About seventy manuscripts were discovered on Rasatantra. More than half of them have been published. Important works are: Rasarathankaram, Rasendramangalam, Kakshaputam (written by Nagarjuna), Rasahridayam (by Govindacharyan), Rasapadhathi (by Sri Bindu), Anandakandam (by Mandhanabhairavan), Rasarnavam (by Bhairavandayogi), Rasarathnakaram (by Siddhanityanudhan), Rasaram (by Govindacharyan), Rasarathnasaramucchayam (by Vaghbhata), Rasendrachintamani (by Pandit Ramachandran), Rasendrasarasamgriham (by Gopalabhattan), Rasachintamani (by Anandadevasuri),

Rasendrachintamani (by Dhumdhukanathran) Rasaprakasa-sudhakram (by Yasodharan), Rudramalatantram (by Bhairavan), Ayurvedaprakam (by Madhavan), Rasakamadhenu (by Pandit Chudamani). These books were written from 8th century to 17th century A.D. Medicines used to be made with Rasam or Mercury after the 8th to 9th centuries. In the 10th century, it became common to mix mercury in many health giving drugs either in the form of powders or decoctions.

Among later works the most important are : (1) Rasendrachintamani (2) Rasarajalakshmi, (3) Rasaratnasamuchayam (4) Ayurvedaprakasam etc. They all deal with treatments based on Rasa or Mercury. But this type of treatment lost its prominence in course of time. This was mostly due to the fact that this special treatment was kept as secret by the physicians who handled it. Besides Rasachikitsa, some medicines were also prepared with metals like gold, silver, iron etc..

Another branch of medical system gradually developed in South India. It is akin to Ayurveda in many ways. Saint Agastya is believed to be the founder of this system. Agastya came to the South from the North, but after spreading the Sidha system, he never returned to the North. Sidha Vidya formed a part and parcel of the separate South Indian culture and at one time it became extremely popular. Saint Agastya is indebted to Mahadeva or Lord Siva in this matter. Siva is believed to have passed on the tenets of this system to Parvathi, his consort. Goddess Parvathi passed on all details about it to Nandikeswara, who in turn passed it on Saint Agastya. This system contains mostly of Rasachikitsa or treatment based on mercury. There was however a marked difference between the Rasachikitsa prevalent in the North and in the South.

Sidha Vaidya developed mostly in Tamil Nadu. There are many works in Tamil Nadu relating to his system. Prescribing treatment by examining Nadi or pulse is a speciality of this

system. This is not contained in the treatises of Susrutha or Charaka. This, combined with the examination of urine, was new to medical knowledge. Sidha system is however quite different from Ayurveda. They have no common roots. Ayurveda is an older system and perhaps Sidha borrowed from it. From South India Ayurveda appears to have spread to Srilanka which in olden days was called Simhala Island. Some books on Ayurveda came to be written there in Pali language, which was prevalent there. Bhaishajya Manjusha is one among them.

In course of time the need for Medical lexicons or Nikhandus was keenly felt. The oldest medical lexicons perhaps is Rajanikhandu or Abhidanachudamani composed by Narahari, who belonged to Kashmir. This is believed to have been written in the 15th Century. Another Nikhandu of importance was written a century earlier i.e. in the 14th Century. This is called Madanavinoda Nikhandu compiled by a scholar Madanpala. Some people believe that Dhanwantari Nikhandu is the oldest of all medical lexicons. This is considered to be an authoritative work and many physicians use it as a reference book. It is not known when it was written. It was in use before the 12th century. After this, another Nikhandu was written by Vaidyasodhalan, who lived in the 18th century. This is an improvement on Dhanwanatari Nikhandu.

Another Nikhandu available is Kayyadeva Nikhandu. This is not very old. This contains more material than in any other Nikhandu. A portion of this is devoted to the making of honey and contains even information about bees who gather honey.

The above-mentioned are somewhat old lexicons. They contain information about all medicines, their names and their Paryayas or equivalent names. These medical lexicons or Nikhandus contain not only the names of medicines, their equivalent terms but also the names of the diseasees the treated by them. Thus they give an encyclopaedic knowledge of all medicines. Later on came Nikhandus by name Shaligram

Nikhandu, Brihannikhandu, Vriddhanikhandu, etc.

In Ayurveda there are certain medications which can be administered by means of smell. By smelling them diseases are cured. For instance Madana fruit is powdered and put in Madanaphala decoction and purified 21 times. Thereafter it is powdered and scattered on a full blown lotus flower and this particular lotus flower is plucked in the morning and the patient is made to smell it. This method is called Vamanopaya.

In Ayurveda, preparation of medicine is done with utmost care and under the direct supervision of the physician. In royal courts a physician preferred by the king used to stay in his palace. It was his duty to take care of the king's health and avoid all harmful food to him. The medicines required for the king and his family members used to be prepared under his direct supervision. Not only in king's palaces but in other places also medicines were prepared directly under the supervision of a physician. He also selected the best ingredients used for the preparation of medicines. There used to be guidance books for the preparation of medicines. One such work is Kshemakutoohalm written by one Kshema Sharma. In it details of the places where ovens are to be prepared, the vessels to be chosen for preparing medicines and the qualification required for the physicians who supervise the preparation of medicines are given. A special book itself came to be written on the subject of preparation of medicines. This is called Sarghadharasamhita, written by Sarghadhara who is supposed to have lived during the time of the invasion of Mughal, round about 1500 A.D. This book became popular particularly in Gujarat.

From this time onwards, books came to be written on different subjects in Ayurveda. For instance, there was a book on fevers written by Kayasthachamundan (1489) called Jwarathimirabhaskaram. Besides this, independent books on paediatrics, poison, leprosy etc. also came to be written. A book was written in 1411 by Mohanan and called Mohanamanavilasom

which dealt with children's and women's diseases. Prithvimallen wrote a book by name Kaurabhrithyam describing children's diseases (1400). In 1400, Veerasimhan wrote a book called Veerasimhavalokam, which deals with medicine as well as Astrology and Law. Chikitsakalika written by Thisadacharya gives all information about Nadi (pulse). Another book written by a Bengali author is called Chitsasarasamgraham which gives particulars regarding diseases concerning stomach, digestion, etc. It also gives information about various medicines prepared with mercury, metals, etc.

A famous work of the 16th century is Bhavaprakasa by Bhavamisra. This gives detailed information regarding venereal diseases, particularly syphilis, which at that time was known in India as Phirangirogasu. The Portuguese were called Phirangees and syphilis was first brought to India by them. This is supposed to be the first book in Ayurveda that refers to Phirangroga or syphiles. It was written in the 16th century. It contains 3 Khandas - Poorvakhanda, Madhyamakhanda and Uttarakhanda. Poorvakhanda details Ayurvedadolpathi (the birth of Ayurveda), garbholpathi (evolution of garbha) Sareen a Vijnana (Anatomy and physiology), Kaumaraprya(paediatrics), Annapana (details on diet), Nighantu (identification of herbs). In Madhyamakhanda the etiology and treatments of various diseases are described in four parts. In Uttarakhanda, Vajeekarana (rejuvenation and aphrodisiac therapies), and Leha preparation are described. Hindi translations of Bhavapraksa by the famous Shri Brahmasankar Misra and Lala Chandraji Vaidya are published by M/s. Chaukhamba Amarbharati Prakashan, Delhi. Another book of importance written during this period is Totatalandam which is also called Ayurvedasoukhyam written by Raja Todarmal in 1589. He was Emperor Akbar's Minister. Around this time two books were written by Sri Harshasuri called Yogasamgraham and Yogachincamani (1666.)

Besides the works mentioned above there were some more

works, which, of course, are not very important. By the 18th century one notices the slow decline of Ayurveda and extending its domain to the needs of the time, for example, in the fields of cosmetics, birth-control, sexology, beauty aids, etc. In Balaraman's Athankathimira Bhaskaran there is reference of even tea. These changes depict the moving trends in Ayurveda.

Prostitution was encouraged and welcomed even, in ancient times. Very soon a science on sexology developed and books came to be written on the subject. Vatsyayana's Kamasutra was the most important work in this field. This was written in the third century B.C. But the science existed even before that because Charayanan, Duvamanabhan and Govardeeyan are considered to be his predecessors in this regard. But their books are not available. We come to know of them only from references in Kamasutra. Other important works in this branch are Yesodhara's Jayamangala (13th century), Padmashri's Nagarasarvaswam (10th century), Kokkoka's Rathirahasyam (12th century), and the famous work of Kalyanamolla, Anangarangam (16th century).

In modern times there was a renaissance for Ayurveda. This perhaps commenced during the time of Swami Dayananda Saraswati who also started a movement for enriching Hindi language. One day Madhusudanan, a learned Ayurvedic physician of the time dissected a human body to learn all about Anatomy and Physiology. To congratulate him and to express the happiness of people fifty guns were fired from Fort William in Calcutta in his honour. From that day onwards perhaps a new era started in the history of Ayurveda. In the same year i.e. 1835 a medical college was started in Calcutta. In 1886 Madhusudanan also printed and published Susrutham.

The 1857 struggle for freedom gave an impetus to our movement for independence and very shortly a movement started to recognise our vast heritage in our culture. This awakening was felt throughout the length and breadth of India. Although

the colonial powers tried to scuttle this move, they did not succeed. Raja Ram Mohan Roy worked with zeal in the field of education and Swami Vivekananda and Dayananda Saraswati in the field of social reformation, religion and culture in general. But it must be said that there were some Westerners too who tried to learn and understand the treasure house of India's art, culture and philosophy like Sir William Jones who founded Bengal Asiatic Society (1784) and Hovemaley who took keen interest in the study of Ayurveda. They demonstrated the superiority of Indian medical system and encouraged research in this line among interested Indians with the aid of the Bengal Asiatic Society and Royal Asiatic Society which came into existence later. Sir Arthur Hume and Annie Besant after him, are unforgettable names who did yeomen work in this direction. They spread the message of freedom among Indians and made them aware of the superiority of Indian culture. Their studies also revealed the importance of our ancient medical system. There was also an attempt to compare that with the modern systems of medicine and bring about happy admixture of both.

At the same time there occurred a change in the system of imparting education in Ayurveda. The old Guru Parampara of Gurukula System gradually disappeared and gave way to the present school system with its advantages as well as disadvantages. No doubt the old system became impracticable. But it continued in certain corners of India. For instance in 1918 Gurukula Vidyalayam was founded in Kangra. This was after Gana Nath Sen of Bengal wrote the famous book Prathyakshsareeram. Gana Nath Sen had deep knowledge of the western and Indian types of medicine. In Gurukula Vidyalayam, the students who had studied Sanskrit, Rasathantha, history, geography, mathematics only were taken. Instructions were imparted in Hindi and so it was easy for the students whose mother tongue was Hindi to learn. A detailed study of Ayurveda including the dissection of human body was imparted there and

the students, who passed out, attained a high degree of excellence. From these students who passed out of Gurukula Kangra we obtained Hindi translations of well-known Ayurvedic works like Jayadeva Vidyalankar's Charakasmhita, Bhaishajyaratnavali, Sareerasthanam of Susrutha Samhita etc. He had also translated Yogaratnakaram, Rasendrasarasamgriham and Rasathanthratharangini. In these he had made a comparative study of the Indian and foreign medical systems also. He had also written two other reputed books : Padartha and Hitopadesam. Besides these, some other important translations also go to his credit. Other Hindi translators who followed his foot steps were Sathyadevji Vidyalankar.

In succession to the Gurukula system some schools and colleges teaching Ayurveda sprang up, like Banaras Hindi University. Here at first teaching of Ayurveda was in Sanskrit language. But from 1928 onwards Western education was also started there. Science was given more prominence. The students who passed out from here also enriched Ayurveda through Hindi medium. Soushrothee or Salakyathantra by Shri Ramanathji Dwidiji is an example for this.

Arya Samaj also started Dayananda Vaidic Colleges to teach Ayurveda at various places. Here teaching was in Hindi. The teachers of these institutions also gave valuable contributions to Ayurveda.

Now let us examine the growth of Ayurveda in some other states. In Gujarat an elaborate and detailed translation of Susruthasamhita was published. There is great popularity there for Ashtangahridayam and Sarangadjeera Samhita, translations of which were made available in Gujarati. Davatar publishers of Junagadh had brought out Gujarati books on Western medical systems. Liladharji Trivedi wrote some books on Ayurveda. Particularly mention has to be made about his big book Grihavaidyam. Such books for the use of the common man were written by Swami Shri Gopalm Kavarji Thakar also and they

were published by the Sindh Ayurvedic Pharmacy.

Acharya Shri Gadavji Trikumji collected some old Ayurvedic works and published their translations in Gujarati. Besides, independently he wrote some books like Rasamritham, Dravyagunavijnanam, etc.. Bapalal Gadbashaji was a clever physician and writer of Gujarati. The two volumes of his Adarshanikhandu is a renowned work. Another Nikhandu is the one complied by Jayakrishna Indraji. His another book is Kutchki Jadeebudiya (Plants and Roots of Kutch). Bapalal's third work is Bharateeya Rasasastra. Besides these, he had also written Kaumarabhrithya, Ghargasthavaidya, Vridhhathrayni Vanaspatiya and other books. Another book which earned popularity in Gujarat is Upacharapaddhathi written by Jiva Ramkalidayi. He has also rendered Rasaprakasasudhakaram into Gujarati.

Maharashtra too has produced a good number of Ayurvedic books. There are translations of Susrutham, Charakam and Ashtangahridayam in Marathi. Nighanduratnakar in two volumes is another major work. Vaman Desai's two works are: Oushadhasamgraham and Bharatiya Rasayanastra. Then there are some books dealing with both modern and ancient medicines. An example is Dr. Bhatt's Rogavijnanam in two volumes. Both in Maharashtra and Gujarat there are five schools teaching Ayurveda.

In Andhra, Ayurveda was very popular from time immemorial. Dr. Lakshmi pathi an eminent research scholar of Andhra demarcates three stages in the history of Ayurveda in Andhra viz. from the very beginning to 1500 B.C., from the time of Krishnadeva Rayar to 1500 A.D., and the final phase from 1500 A.D.

There are references to Andhra in the Vedas. In Smritis and Puranas and Kathas also, Ayurveda in Andhra is referred to in several places. According to Dr. Lakshmi pathi there existed a University in Amaravati in Andhra started by Nagarjuna, which catered to the teaching of Ayurveda, giving special emphasis to

Rasachikitsa. He says that this University was as important as the Universities of Banaras and Takshashila in the North as regards the teaching of Ayurveda. Nagarjunagonda is a small hillock on the banks of Krishna in Guntur District. Here the remains of an old University was discovered recently. This also is supposed to have been started by Nagarjuna and here he started Mahayana system which transgressed the boundaries of India and spread to other countries. Nagarjuna, it is believed, spent his last days in Sri Saila in Kurnool District. Andhra was the centre of Rasayanasastra. From here this is believed to have spread to Tibet and China.

Dr. Lakshmi pathi says that Nagarjuna's disciple was Jayaprabhacharya, and Chandraprabhacharya was the latter's disciple. Chandraprabhacharya had sculpted the figure of Buddha in one of the shilas or stones. Historians say that this was done in the 2nd Century B.C. Below this figure there were some inscriptions also. Such stupas were found in Jagaryapettah in Krishna District also. This leads us to the conclusion that Nagarjuna lived in the 2nd Century B.C.

Nityanandhasiddhan, Navanathasiddhan and Revasiddhan and others wrote books on Rasayanasastra. Several books of theirs are available in oriental Manuscript Library in Chennai, says Dr Lakshmi pathi.

Rasaratnakaram of Nityanandasidhan written in Telugu has been published with some explanatory notes. This is the most authoritative book on Rasachikitsa in Andhra Pradesh. In this book there are descriptions of Shrishaila, the mountains surrounding it and the educational institutions situated nearby.

In Andhra Pradesh up to the time of Krishnadevaraya (1510 to 1550) the Ayurvedic books were in Sanskrit. The texts were Charakam, Susrutham and Madhavanidanam. Besides these, certain books which give prominence to Rasathantha like Basavarajeyam, Vaidyachintamani, etc. were also taught. Vaghbhata is known by the name of Bahata in Andhra Pradesh.

His work has partially been translated into Telugu. Although some old physicians had studied it, it has not been published there. During this period, Yagaratnakarm, Sadvaidyajeevanam and Gopala Dasa's Chikitsasaram were written. These became popular in North India also and were selected as text-books there. Sarangadhara Samhita (1350 B.C.) is supposed to have been written by an Andhraiste. This too gained popularity in the North and other places outside Andhra.

Ashtasthanapareeksha is a peculiarity of the Andhra Ayurvedic system. This means checking Nadi (pulse), tongue and examining urine, excreta, eyes, nails etc. These were keenly examined and the percentage of Vatha, Pitha and Kapha in patients were calculated. This system of diagnosis by examining Nadi is not available in the North Indian works like Charakam, Susrutham and Vaghbatam. This is a speciality of the South Indian traditions. This came into being through the Siddha system. In Siddha system this found its place from Hatha Yoga.

But this method of diagnosing diseases by examining Nadi is very difficult. This is almost akin to the skill of a Veena player and it is not so easy for every one to practise it. A special attitude is necessary for it. Nadeevijnanam sometimes comes to one through tradition by practice or special skill.

All Ayurvedic works in Telugu begin with the examination of Nadi. So it can be presumed that this art was started from Andhra. It spread to the North during the 13th and 14th centuries. Even now there are physicians in Andhra Pradesh who correctly diagnose a disease by examining the Nadi. But it is said that this knowledge can be achieved only through the Gurukula system, i.e. by long practice.

Silalekhas or inscriptions on stones seen in Andhra Pradesh throw much light on the growth of Ayurveda there. In Malakapuram, near Mangalagiri in Guntur District in Andhra Pradesh there are much stones which are 10 to 15 feet high. They were installed by one Ganapathideva, belonging to

Kakateeya dynasty. These inscriptions give the information that each public hospital was constructed in twenty acre plots. In one such inscription found in Kalaveru village (the present Arnavaram) there is the interesting story of a physician by name Parahitacharya who extracted a piece of bone from the mouth of a snake to save it from death. In recognition of this kind act, he was presented with an entire village. Parachitacharya later wrote a book on Ayurveda called Parahitasamhita. Another village by name Korukonda in Godavari District was gifted by Raja Mummu dinayaka (1368) to another famous physician called Vaidyakasi Bhatta, according to one inscription.

After fall of Buddhist Universities, Ayurveda, along with other subjects like Veda, Samhitas etc. came to be taught in Gurukula style in Ashramas, Agraharas, etc., in various parts of Andhra Pradesh. In a work Kumárasambhava written by Choda, there are discussions on the right kind of food and the ways in which an individual can maintain good health. Such guidelines for healthy living existed even before in Andhra Pradesh and these were scrupulously followed there.

After the days of Krishnadeva Raya some attempts were made successfully to write Ayurvedic works in verse. These were being encouraged also. Vaidyasara by Rayasam Perayya was one such work. In this book there is this passage: "Sanskrit is not known even to one among hundred persons, but all people know Telugu." In this time, the physicians in Andhra Pradesh were well-versed with works like Rasarathnamuchayam, Chintamani Basavarajeeeyam and Rasarathnakaram. Brihadyogaratnakaram was a Sanskrit book written by Thrimallan. Yoga Tharangani by Thrimall Bhattan also came out at this time. Indrakanta Vallabhacharya's Chintamani was translated in Telugu verse by Devullapalli Vankatanarasa Mantri.

With the introduction of printing, many old Ayurvedic books in Sanskrit came to be published. In modern times, wherever possible, Ayurveda came to be taught taking the

modern system also into cognisance. The establishment of Madras Ayurveda College in 1901 by Shri Vaidyaratnam Panditji Gopalacharalu Guru was a mile-stone in the history of Ayurveda. (This was at a time when Andhra was a part Madras province.) After his death, this college was being run by Dr. Lakshmi pathi. Private Ayurvedic colleges recognised by the Madras University came into being in Guntur and Vijayavada. Pandit Taranatha started a Gurukula type of institution in Tungabhadra. This later on became the Ayurvedic College in Bellary.

At the beginning of 20th century Ayurveda Mandali was formed and under its auspices examinations were held in three grades, viz., Bhishak, Visharad and Acharya. Andhra Ayurveda Parishad started conducting examinations in Ayurveda in Telugu. Besides these, there were many Gurus who taught Ayurveda under the Gurukula system in the villages. There were at least one or two houses which taught Ayurveda this way. In 1925 a School of Indian Medicine was started in Madras. The name of the course was L.I.M. (Licentiate in Indian Medicine). This institution was later raised to the College of Indian Medicine.

In 1946-47, during the time of Prakasam Ministry, the health Minister Rugmini Lakshmi pathi started a six months course for Ayurvedic teachers in the villages. Under this scheme the Government conducted two examinations for them. The course consisted of First-aid, Gynaecology and Paediatrics. Nearly a thousand physicians passed out of this scheme, and they worked in the villages efficiently. Considering that this was not enough, Ayurveda Vidypidham conducted an Examination called Praja Vaidya Examination in 1951.

## AYURVEDA IN KERALA

The history of Ayurveda in Kerala can be divided into three phases: the ancient period, i.e., before Sanskrit made its inroads, the period after introduction of Sanskrit and the modern times.

On the basis of research studies conducted later, it has come to light that millions of years ago Kerala was different geographically. It is believed that the place was connected with African continent through islands. The coconut tree is supposed to have come from the pacific region.

The long coast line of the Arabian sea made the people of Kerala sea-friendly. By boats they went particularly to countries like Egypt, Arabia, Syria, Iran, etc. There were some noted seaports in Kerala, while by land it was connected with the North, Kerala came to be influenced by the civilisations of the North and by countries across the sea. This developed a broader outlook for the people of Kerala.

It is believed that there was a medical system prevalent in Kerala even before the advent of Sanskrit. This system merged with the Ayurveda contained in Sanskrit texts. The medicines procured from hilly areas which go by the name Vanoushadhi, still being used by the Ayurvedic Vaids of Kerala, the peculiar systems followed there, treatments for insect and snake bites, smallpox and Marmachikitsa show the difference in the Ayurvedic tradition being followed in Kerala.

There are many medicines in Kerala which are not seen in Charakam, Susrutham, or Vaghbhatham. For instance, the book Sahasryogam, which was being followed for generations in

Kerala, contains some medicinal preparations which are not seen in the above mentioned works. Examples are pills such as Dhanwantaram, Gorochanadi, Ilaneerkuzhampu (a lotion for the eyes). These are very important medicines as far as the Ayurvedic physicians of Kerala are concerned and they are being prescribed frequently. The Northerners are not acquainted with many plants grown in plenty in Kerala, where there is monsoon for five or six months in a year and useful plants grow in plenty. The physicians of the North are aware of coconut trees, but they do not use medicines made out of tender coconuts, milk extracted from the kernel of coconuts, etc. All parts of coconut trees are used in Kerala for making medicines including its roots.

Civet's glandular excretions, which is called Pacchappuzhu in Kerala, is for preparing several medicines, but this is not used in the North. Pills for Marmachikitsa are made and used only in Kerala. Similarly some medicines for Balachiktsa or treatment for children, Dhara, Navarakkizhi Pizhichil and massage are Kerala's contributions to Ayurveda.

In Kerala the study of Ayurveda was not a monopoly of any caste or creed. Even from olden days, not only Brahmins but the so-called untouchables like Ezhavas, Velas, Mannans etc. also learnt it. There are many renowned physicians among Christians and Muslims as well. Velans and Kanians were experts in paediatrics. Kurups were famous for bone-setting, massage, etc. Besides them, some families were renowned for certain specific medicines for ailments like fracture, bruises, cracks, etc. They used to prepare some oils and sell them. Even now this practice continues. There is another practice prevalent in Kerala. Certain festivals. Puja etc. are held giving prominence to a particular plant, flowers etc. The main function in Ayyappa puja for instance is Palakkompu Ezhunnallikkal or the procession with Palakkompu or a branch of Pala, a tree which has great medicinal value. Similarly during Onam and Thiruvathira festivals women of Kerala adorn their hair with ten flowers

called Dasapushpa and Pathira flower. These too have medicinal value.

There are many reasons for the growth of Ayurveda in Kerala. The people of Kerala are traditionally neat and clean. Most of them take two baths at least in a day. With their traditional white dress they had a deep and unshakeable faith in personal cleanliness, hygiene and health. Their martial arts like Kalarippayattu, games and dances like Kathakali for males and dances like Mohiniattam for women have endowed them with a fine physique, and they always tried to maintain it. The forests and hilly tracts of Kerala abound in rich vegetation and rare medicinal herbs. All these added to the development of Ayurveda in Kerala in no small a measure. In Kerala Ayurveda took deep roots and the people and physicians alike have great faith - almost a devotion to it. Practical experience and research in this field enabled the physicians there to add to its enrichment in various ways.

Ayurvedic works in Sanskrit like Ashtangahridaya and Susruthasamhita were popular in Kerala, but it was Ashtangahridaya system expounded by Vaghbhata which was followed by most of the physicians from ancient times.

The Ashtavaidyans who belonged to the Nambudiri community deserve special mention. These physicians belong to the eight Illoms (ancestral houses) of Pulamanthol, viz Alathiyur, Kuttanchery, Thrissur, Taaikad, Eledath Thaikad, Chitramon, Vayaskara and Vellok. They are called Moosads. The physicians of the Ezhava community rendered valuable service, also as palace physicians and commanded great respect even in those days when untouchability was prevalent. Itty Achuthan, who helped in the compilation of the 'Hortis Malabaricus' was an Ezhava physician and Ayurvedic scholar. In recent times the Warrier community rendered great service to the growth of Ayurveda.

Ayurvedic works in Kerala can be divided into three

sections: (1) Commentaries on old works and independent books based on them (2) Compilation of information collected from the notes left by famous physicians and scholars (3) Modern works.

After Sanskrit came to be acknowledged as the language of Vaijnana or knowledge, the intellectuals turned towards it. In ancient days, while studying Sanskrit, the students had to learn medicine also. So all the Sanskrit scholars of old knew Ayurveda. Even though some of the learned scholars did not take up medicine as a profession, they wrote commentaries on Ayurvedic works. There were many commentaries written by these scholars on Ashtangahridaya, the most popular works in Kerala. A physician and scholar by name Indu was the most famous among them.

Padhyam was considered to be the most important work. The author of this work is not known. Brihal Pathyam was another famous commentary. The author of this is believed to be a Pulamanthol Moosad. There is another commentary by name Lalitha which too is believed to have been written by one Pulamanthol Moosad. Hridya is another important commentary. Thereafter came Chikitsamanjhari, an independent work, written by one Moosad. Vakyapradeepika is an important work useful to students. This was written by one Parameswaran Nambudiri of Alathur village. Kaikkulangara Rama Warrier's Sararithadarpanam, Uppot Kannan's Bhaskaram and Govindan Vaidyar's Arunodayam are other important commentaries written by Kerala physicians.

There are certain other books based on important Sanskrit texts in Ayurveda. Vaikkath Pachu Moosad had written Hridayapriya and a condensed version of it called sughasadham based on Ashtangabridaya. Velulteri Krishnan Vaidyar translated Ashtangahridaya into Malayalam verse. Perunelli Krishnan Vaidyar translated certain portions of Ashtangahridaya into Malayalam. Paravoor Kesavan Asan had written a commentary of Madhavinidanam. He had also attempted to write commentaries

of Vaidyasamgraham, Sarngadharam, Bhavaprakasam and Bhaishyaratnavali but they were not complete. It may be mentioned that most of these scholars belong to the so called depressed community, Ezhavas.

Bhagantanagarjuna, who lived in the 5th century was the author of a famous work called Rasavaishikam and a Malayalam version of it, was written by Narasimhan who lived in the 8th century. Rasopanishath is another important work. All these books are published works and are available in the Samskritha Grandhavali of Thiruvananthapuram.

Vaidyamanorama is a book written in Sanskrit by one Kalidas, probably named after the great Sanskrit writer. He is believed to be a Keralite. This book was first published by the Bharat Vilasom Press, Thrissur. This contains prescriptions that were in vogue at that time and was considered to be a very important compilation, useful to practising Ayurvedic physicians. This work was brought out by one Yadavsharma from Mumbai, together with Rajamarthandam. Dharakulpam is another Sanskrit work published along with Rajamarthandam. Attupurath Imbichan Gurukkal had published it with his commentary.

Sindoormanjari was the work of Thrissur Thykkat Narayanan Moosad who lived from 1046 to 1082. This deals with medicines made out of metals and other matter such as copper, iron, sulphur, mica and mercury. This was of great use, as effective remedies could be made out of these.

With the advent of pure Malayalam or Manipravalam various changes took place in the manner of writing, both in literary works as also in Vaidya or medicine. The first book which came out during this period was Alathur Manipravalam, written by one of the Alathur Nambis who were learned scholars and physicians at that time. Thereafter in its wake a good number of other books came to be written. They are Sahasrayogam, Chikitsakramam, Yogaratnaprakasika, Vaidyamanjari, Chikitsamanjari, Chikitsanool, Sannipathachikitsa

(treatment for fevers), Netrarogachikitsa (treatment for the eyes) etc. These were very popular in traditional Vaid families in Kerala, but not outside Kerala. Other important Manipravala works were Chikitsamanjari and Yogamritham. Other old books are Yogasaram and Vaidyamanjari. The latter was written by Puthukkal Madhathil Krishnan Asan.

Kerala had made great inroads into Vishachikitsa or treatment mostly for snake-bite and also other insect-bites. There were specific remedies for each kind of insect-bites. This science developed to such an extent that it forms a large and important branch of Ayurveda in Kerala. Many renowned physicians were available to treat such cases. They based their knowledge on Sanskrit texts and always looked towards these books for guidance. The main source for them was the part in Ashtangahridayam called Vishavaidyaprakaram. Besides this, the physicians also depended on books like Narayaneeyam Uddeesham, Ulpalam, Mekhala, Kalavanchanam and Lakshnamritham. Several books on this branch of medicine came to be written, but they were based on these seven works.

The peculiarity of this treatment was that it was done by chanting Mantras or special hymns and by Oushadhas or medicines. This chanting takes for a long time, for hours together and medicines are applied at the same time. In Narayaneeyam, the treatment is mostly by Mantras. Uddeesham deals mostly with medicines. Kalavanchanam contains ways and means to combat Kala or the God of death and to save the patient from crisis and hence the name. Lakshanamritham is a primary book for learners.

The most important book written in Kerala on the subject of Vishachikitsa is Jyotsmika, believed to have been written by the famous scholar and physician Karat Nambudiri. Prayogasamuchayam is another important work on the subject. A prince of the Cochin Royal family, Shri Kochunni Thampuran had made a translation of this work, together with some of his

personal experiences and cures. Perhaps this prince was the most famous of all physicians in Keral as far this branch of Ayurvedic treatment is concerned. His cousin, Ammaman Thampuran, was another learned scholar of the same family. He was a reputed physician in his days. Both of them lived in the first half of the 20th century and were legends.

Turning to paediatrics, it will be seen that Kerala made much progress independently in this line. There are some excellent medicines like Kombanchadi, Nirgunyadi, Asallyadi etc. and some home medicines and decoctions with which almost every home in Kerala is familiar. Many such remedies are contained in Kaikkulangara Rama Warrier's famous book in Sanskrit, by name Arogyakalpadrumam. This again is a compilation of the notes prepared by some noted physicians for children's diseases. Some others also have written books on Paediatrics. Kodungalloor Kunhikuttan Thampuran wrote the book Karappan which deals with medicines and treatment for Karappan, a peculiar kind of itch which afflicts infants. Mahakavi Vallathol wrote Arogyachintamani. Being a great poet his verses have a beauty of their own and are also of poetic value. He wrote two other books Garbharakshakramam (for the health of pregnant ladies) and Vaidyajeevanam a medical book of a general nature.

In ophthalmology also several excellent books were written in Kerala. As a result of research by some ophthalmologists several medicines were discovered. Kaikkulangara Rama Warrier wrote Nethrachikitsa, based on Ashtangangahridaya. In the field of surgery and other fields of ophthalmology there were some experts. But this branch declined to some extent in recent times probably due to the progress made by Allopathic Ophthalmologists and improved methods of surgery.

Mention has already been made about Kalarichikitsa. At one time it became necessary for the youth of Kerala to take up arms against invaders and to help the rulers of the land. The training in Kalari imparted to young men and women was

dangerous and often resulted in accidents. To meet this demand a system grew up in and around Kalari. Ayurvedic medicines like oils used, but bone setting and massage were somewhat different. In Kalari, trainees were taught how to make an enemy unconscious or immobile and the person who inflicted this alone could cure the victim and make him walk. Generally the women of Kerala are extremely beautiful and they learnt this martial art to protect themselves from molestation. Some ladies took part in battles side by side with men and for them this training was found to be very useful. The persons who practised in Kalari had to be thorough with marmas or the essential parts of human body and so a deep study of the subject was made. This was required to inflict injuries on enemies in these essential parts which sometimes kill them or make them numb. The physicians who treated people who meet with accidents inside the Kalari or outside always used to examine Nadi or wrist of the patient carefully for diagnosing his ailment and for giving the right type of medicine and treatment to him.

Massage played an important function in the Kalarichikitsa method. So, the physician is to be an expert in this field also.

Kerala's most important visual art, Kathakali, required an elaborate training for at least six years. The trainees had to be extremely agile and fit because alongwith Abhinaya or acting, the body movement had to be synchronised. So to train Kalari artists as well as Kathakali artistes, Uzhichil or massage for a number of hours every day was essential especially in the beginning stages. The pupil's body will be smeared with oil and he is asked to lie down on the floor. The trainer suspends himself on a rope tied at both ends on posts or some other support and massage is given with the legs of the trainer. This is an elaborate procedure and done everyday until the body of the trainee becomes extremely supple. This also gives strength to all parts of the body. The Kathakali artists benefit by it in no small a measure. Some medicines also were prepared for the cure of the

artistes who meet with accidents during performances. Karutha Gulika, Marmagulika (Pills) different types of oils and decoctions were prepared for their use. Marmadarpanam written by Chirakkal T. Sridharan Nair is an important book on this subject.

Vasoori or smallpox was rampant at one time in Kerala. To meet this killer disease a special branch of Ayurveda developed in Kerala and it was called Vasoorichikitsa. This resulted in a special type of treatment for the patients and some particular medicines were prepared for it. Smallpox was divided into different categories. Hindus believed that the disease was caused by the displeasure of some deity. The goddess of Kodungallur Temple used to be worshipped for curing and eradicating this disease. Research was also carried out to combat Vasoori. The most important book on this subject is Vasoorimala.

Gajachikitsa or the treatment of the diseases of elephants has generally been dealt with before. In Kerala an honoured place is given to elephant. Elephant was considered to be a symbol of prosperity and so kings, noblemen and monied people in Kerala bought elephants and looked after them well. The necessity therefore arose for Gajachikitsa. Elephants were also used for temple processions and festivals. Rich temples like Guruvayoor maintained a number of elephants. Rich people also donated elephants to temples. They were also used for war in olden times. It served the purpose of a modern tank because arrows or swords had not much effect on elephants. They could also trample enemies to death. They were used for carrying heavy loads also. Even when they die their tusks were sold at heavy price. So it is no wonder that Gajachikitsa was given an important place in Kerala. Mathangaleela is an important work on diseases and maintenance of elephants. There is, however, dispute about its authorship.

As already stated, in Kerala there is abundance of valuable medicinal plants especially in rural areas and forests. Many people, although they were not Vaidas knew about some plants

which bought immediate cure to some diseases. Shri Narayana Guru, a renowned Saint of Kerala, who was born in a Vaidya family, spent some time in a mountain called Maruthwamala before he became a Sanyasin. There he came across some plants which had various medicinal qualities. A plant called Kattukodi, the juice of which, if kept in a pot, hardened was used by him as a substitute for food. He was a physician as well, and used to prescribe medicines to patients who approached him. A tribal boy, stricken with leprosy approached him. It seems he gave him medicine which he himself prepared out of some medicinal plant and the boy, as well as his father, who too was a leprosy patient, got cured within a very short time. (Perunelli Krishnan Vaidyar and Velutheri Kesavan Vaidyar who, as already mentioned had written some books on Ayurveda, were his colleagues and friends).

Many of such medicines have been lost to us. This is due to a strange superstition among the physicians of those days that the effect of a particular medicine, which was discovered by him, will lose its value if it is divulged to others, even to his own sons or disciples. With the result it died with him. Secondly most of the physicians did not note down the name of drugs which he found to be effective for a certain ailment. Even if they were noted down they came to be lost. In the absence of printing in those days books could not be made and kept. So most of the Nikhandus in Kerala were published only in recent times after the invention of printing.

An authentic book on the medicinal plants of Kerala was published in Latin by the Dutch. Dr. Lakshmi pathi says that it was the foreigners who made deep studies on the medicinal herbs of Kerala. Garcia D'Onta, was one of the earliest Portuguese scholars in India. Another was Cucosta. Both of them wrote books on the above mentioned subject. Cucosta's book came out in 1578. But the most outstanding work was that of Van Reid. He brought out a voluminous in our work on the medicinal

plants in India called Hortes Malabaricus and it contained twelve folio volumes. This was published at Amsterdam. For writing this, materials were supplied by one Itti Achuthan, a famous physician and scholar belonging to the Ezhava community, about whom a reference was already made before. This was written in 1676 and published between 1686 and 1703.

In recent times attempts were made by several persons in Kerala to write Nikhandus. One written by Thayyil Krishnan is very popular. Another Nikhandus is by Cholayil K.M. Vaidyar. Kanippayyur Nambudiripad, Konath Rama Warrier and others also wrote Nikahndus. Kerala University is trying to publish a big Nikhandu of medicinal plants keeping the modern scientific methods in view.

Kerala has always been blessed with physicians and scholars of high calibre. Everywhere one could hear stories about miracles performed by them. But in the absence of biographies or information regarding them we are unable to know much about them. Marcopolo who visited Kerala in the 13th Century A.D. reports that everywhere in Kerala there were famous, competent Ayurvedic physicians. In the Kerala Sahitya Charitram (history of Malayalam literature) written by Ulloor S. Parameswara Iyer and in the Bhashasahitya Charithram of Vadakkumkoor Raja Raja Varma there are many references about authors who were well versed in Malayalam literature as well as Ayurveda. This is a long list. For instance, Vayaskara Aryan Narayanan Moosad who wrote Duryodhana Vadhom Kathakale play was considered to be a famous Ayurvedic physician respected by one and all. Attupurath Imbichan Gurukkal, Narikkuni Unnerikutty Vaidyan both Muslims, were two other renowned physicians. Uppot Kannan, another physician, a government official, was another great physician. His commentary on Ashtangahrdaya was extremely popular in North Kerala. Thrissur Thykkat Narayanan Moosad who wrote Sindoora Manjeri was a physician without equal in his time. The author of

Hridayapriya and Sukhassadhakam, Shri Vaikkom Pachu Moothath was another reputed Vaid. He was a leper and through his own treatment he got rid of the disease. One of his disciples was Anantapurath Mootha Koyi Tampuran, a learned Ayurvedic physician. His disciples took initiative to start an Ayurvedic College in Thiruvananthapuram.

Kaikkulangara Rama Warrier, about whom mention has already been made, was a Sanskrit scholar par excellence. He was an astrologer, a famous Ayurvedic physician and a Yoga expert. He wrote commentaries on various Ayurvedic texts and acquainted the Malayalis with some famous works on Ayurveda. Kodungallur Kochunny Thampuran, who thoroughly studied Ashtangasamgriham and published it, Thrikkovil Uzhuthra Warrier and Vailoor Sankara Warrier were the eminent Ayurvedic physicians who preceded the present generation of Vaid.

The present generation of Ayurvedic scholars were not the products of Gurukula system. They passed out academic institutions. They, in turn, took equal interest in Ayurveda and some of them tried their best to set up institutions to teach Ayurveda. Others formed societies either by themselves, or by making the Government take keen interest, and did commendable service to Ayurveda.

The first Padhasala to teach Ayurveda was set up in Thiruvananthapuram. In 1886, Kaviyoor Parameshwaran Mothattu, a disciple of Pachu Moothath, founded a private Padhasala near the Maharaja's palace. Here he started teaching Ayurveda. Pachu Moothath happened to treat the then Dewan of Travancore, Shri Sankara Subbayyar and got him cured of some illness. So he influenced the then ruler of Travancore, Shri Moolam Maharaja, to take over the institution by the Government. This was in 1890. Rajaraja Varma of Anantapuram was a renowned Ayurvedic physician in those days and he too was a disciple of Pachu Moothath. Raja Raja Varma supervised the functioning of the Padhasala and the examinations. He paid great

attention to the progress of the institution. He had instituted two examinations - the lower Medical and upper Medical. In 1918 Kolatheri Sankara Menon, another learned physician was appointed as the Ayurveda Director of the State. He abolished the Lower and Higher Examinations and renamed them as Vaidya Sasthri and Vaidya Kalanidhi and adopted a new syllabus recommended by Tirumurthi Committee. Thereafter, in 1957, when Dr. A.R. Menon became the Health Minister, he introduced D.A.M. Diploma course. Later on a Degree course was introduced, with only one course. Now there is an M.D. course also for Ayurveda in Kerala University. They are separate faculties for Ayurveda both in Kerala and Kozhikode Universities.

On the Malabar side, a Vaidya Sabha was formed by some Ayurvedic physicians in the Arogyachintamani Vaidya Sala of Vellanisseri Vasudevan Moosad. Eminent personalities like Mahakavi Vallathol, Punnasseri Neelakandha Sarma etc. gave it an active support. The registered organisation was later on taken over by Vaidyaratnam P.S. Warrier and the Padhsala was run under his expense. This Padhasala was first started in Kozhikode in 1917 and later shifted to Kottakkal. When it was started, stipends were given to the students. The course was for four years. After this course, practical training was also given to the students. The diploma from this Padhasala was called Arya Vaidyan. The modern medicinal science was also included in the curriculam for this course. P.S. Warrier himself wrote two books for the use of the students, namely, Ashtangasaareeram and Brihachareeram. When a united Kerala came into being the courses of study were combined. At first there was D.A.A course and later, Degree course.

Similarly another registered Society by name Keraleeya Ayurveda Samajam was founded . This was formed by the Ashta Vaidyas and some other eminent physicians of the time. Under their guidance a study course was formulated. In 1946 the study of Ayurveda was started in the Padhsala style. At first it was run

on the Gurukula model under the direct supervision of Ashtavaidyas and at the end of the course a certificate was given to the successful students. Later a Diploma was given at the end of the course by name Vaidyapadan. When the study courses were combined, D.A.M. course was started. Now it is a Degree course.

There are many graduates in Kerala who passed out from Indian Medical School, Venkitaramana College etc. of Madras. They had taken either Ayurveda Siromani Degree from Venkitaramana college or L.I.M. from Indian Medical School. This course was later on stopped because they were converted into G.C.I.M. College and M.B.B.S. course.

Many Commissions were set up to modernise the scheme of study for Ayurveda. On the basis of the reports of the Chopra Commission, Bhore Commission etc. The Government, implemented the schemes in accordance with them. In 1957, when the United Kerala or Aikyakerala was formed by integrating Travancore, Cochin and Malabar, Dr. A.R. Menon became the first Health Minister of the new State. He convened a Vaidya Sadas or Committee, which laid down the foundation for a new teaching scheme for Ayurveda in Kerala. The various branches of Ayurveda were taken into account and with this the modern system of medicine was also combined. This became the basis of the study of Ayurveda.

For the enrichment of Ayurveda in Kerala and encouraging its study, the outstanding contribution was made by P.S. Warrier. At first he had studied Ayurveda under Ashtavaidyan Kuttanchery Moosad and thereafter Allopathy under Dr. Varghese. Thus he was well-versed with both the systems. By his own efforts he started an Ayurvedic Vaidyashala or shop for selling Ayurvedic medicines. After he achieved success in his line, he took over Arya Vaidya Padhsala. Warrier introduced new methods for making medicines and also invented a new scheme for teaching Ayurveda by combining both Allopathy and Ayurveda in its curriculam. Besides

these, he started a magazine called Dhanwantari in which learned Ayurvedic physicians took part in discussions to modernise Ayurveda and also to give it more popularity. He himself wrote many valuable articles on the various aspects of Ayurveda in it and also made other scholars contribute articles on important themes. This gave a good boost to Ayurveda.

Shri P.S. Warrier was, from the very inception of the Arya Vaidya Samajam, meeting its working expenses from his pocket. Till his death in 1944, he was its permanent Secretary.

The activities of the Arya Vaidya Samajam and the Arya Vaidya Sala, kindled in the minds of the people new hopes and faith in the efficacy of Ayurveda. Interest in the ancient system of medicine was being roused and they became eager to learn more and more about the system. P.S. Warrier knew that to keep up the newly awakened interest in the lay public some kind of education was needed to be given on the subject. It was with that end in view that he started the medical journal *Dhanwantari*. He was its editor and publisher.

His cousin Shri P.V.Krishna Warrier, an erudite Malayalam scholar was the Assistant Editor of the journal for some time. Now Arya Vaidya Sala has a publication Wing which publishes articles of eminent Ayurvedic physicians. A periodical by name *Aryavaidam* in English is also being published under the auspices of the publication Wing.

The *Dhanwantari* threw much light on the numerous problems of health and hygiene and helped its readers to know many things. It became one of the very few good and useful periodicals of the time in Kerala.

While he was in the Gurukula, leading a strenuous life. P.S. Warrier had dreamt of a well organised institution where students of all classes and creeds with a real desire to learn Ayurveda could go and fulfil their ambition without having to undergo the rigours of a Gurukala, which had become impracticable by this time. He pictured himself in his mind as

the prime organiser of that institution. It was, of course, an ambitious dream of a young boy, a vision reflected on the mind of one who was tasting bitter experiences.

On January 14, 1917, the Arya Vaidya Padhasala was converted into the Arya Vaidya College. It was inaugurated by the Zamorin of Calicut. Prince Kochunny Thampuran of Cochin, a famous Toxicologist and scholar, presided over the occasion. Thus was fulfilled a long-cherished dream of Shri P.S. Warrier. The students had to pay no fee except the admission fee of Rs. 5/- . Shri P.S. Warrier was the Principal of the College. Dr. E. Rama Warrier, L.M.P. was appointed as lecturer to teach Anatomy and Physiology. Dr. N.S. Venkitachala Iyer also had rendered invaluable service to the institution for a long time. The College had a four-year course of studies. Those who passed the final examination were awarded the certificates of Arya Vaidya Samajam, under whose auspices the college was managed. The Arya Vaidya Samajam had a fixed deposit of Rs. 5000/- with their bankers. The college had no other source of income excepting the interest accruing to the amount and the small amount received annually from students as admission fee. To run the college on efficient lines these petty amounts were inadequate. To meet the recurring expenditure every year, Shri Warrier freely spent from his own funds. Although the management was vested in the Samajam, the institution had ever been dependent on the munificence and loving care of Shri P.S. Warrier ever since its inception. And with a view to help it march forward from progress to progress even after his death, Shri Warrier had made ample provisions in his will enjoining the Board Trustees of the Arya Vaidya Sala whom he had appointed under his will to render financial assistance to the college by utilizing ten percent of the annual profits of the Vaidya Sala.

Until 1924 the college functioned from Kozhikode. In that year a charitable hospital was opened in Kozhikode and in order that the students may gain more practical knowledge and

experience in hospital work, and to enable Shri Warrier to devote more time and better attention to work in the college, he shifted the college to Kottakkal. But this change, of course, unsettled things for some time. An interior village like Kottakkal could not provide the students with all facilities for boarding, lodging and other amenities which they could get in a big town like Kozhikode. This caused a perceptible fall in the strength of the college when it was opened in its new environs. Shri Warrier realized the difficulties of the students, most of whom did not belong to Kottakkal. So he decided to give monetary aid to those who needed it. This changed the course of the wind. Students came from far and near seeking admission, and the strength went up steadily year after year, until at last he was obliged to introduce some discrimination in admission except for the poor and deserving.

The course of studies in the college was based on Ayurvedic principles at first, but in 1927, when a Doctor qualified in the modern system of medicine was appointed as physician and surgeon in the charitable hospital, students were given training in some of the methods of the modern system also. Lessons in Toxicology were also imparted.

Formal recognition was given to the college by the Government in 1947, enabling the Arya Vaidyans to become Registered Medical Practitioners. In 1972 the B.A.M. degree was introduced in the college. The college is now affiliated to the Calicut University. The Arya Vaidya Samajam was dissolved and the Kerala Ayurvedic Research Society, Kottakkal has taken up the management of the college from the 1st April, 1976. Arrangements were also made to start Post Graduate Courses in the college.

Till his death in 1944, Vaidyaratnam P.S. Warrier served the college with missionary zeal. At the time of his death it was on solid foundations, thanks to the commendable work of Shri Warrier. Actually he came as a saviour at a time when our

ancient medical system was on its decline.

The dream of Vaidyaratnam took shape later through the ardent work of some of his devoted disciples, his relatives and others. Now Kottakkal Arya Vaidya Sala is the foremost Ayurvedic institution in Kerala. The huge complex in which it is situated is a place of scenic beauty. It is perched on a hill on the Kozhikode Guruvayoor highway. All around the complex are green dales, valleys and tiny hillocks. Perhaps this site was specially chosen for its fresh air and healthy surroundings.

The Kerala Ayurvedic physicians have practised with a high degree of excellence and success the Panchakarma treatment of Ayurveda. In this regard the special treatment offered are Dhara, Pizhichil, Navarakkizhi, Uzhichil and Sirovasti. They have been found specially effective for Paralysis, Rheumatism, Arthritis, Spondilosis, etc. Hysteria, Insanity and other psychosomatic diseases also are effectively treated by these methods.

Dhara is an elaborate process but it brings about permanent cure. In this, after a liberal application of medicated oil on the patient's head and body, he is made to lie supine on a special wooden plank (Droni) his neck and head placed in a comfortable position. Then a non-stop continuous stream of the prescribed medicine (medicated oil, decoction, milk or other material) is made to drop gently on his forehead and head from a prescribed height through a specially devised apparatus for it, for a period ranging from one to one a half hours. After the Dhara is over, the head is fully dried with a towel and again the oil is applied to the head.

Very frequently Dhara is combined with Pizhichil. In Pizhichil too the patient is made to lie down on a Droni and pieces of linen dipped in comfortably warm medicated oil are squeezed on the patients body with the warm oil spreading and flowing all over the body. The patient is given a gentle massage by four experienced masseurs sitting on his either side. There are

different types of Dhara: Oordhvanga Dhara, Thakra Dhara and Sarvanga Dhara. Depending on the condition of the patients these special treatments may have to be continued for a period of 14/21/41 or 90 days followed by a further course for an equal number of days.

Navarakkizhi is another treatment and it consists of giving massage to the body with a difference. It is done with small linen bags containing Navera rice after a liberal application of the medicated oil all over the body. After wiping the body with a dry towel the medicated oil is again applied. The process is continued for one to one and a half hours.

Sirovasti treatment consists of keeping the prescribed oil at a bearable temperature on the head of the patient by fitting a leather cap round it. The duration is almost the same. Generally the course is given for only seven days at a stretch. It is found effective in Triginnial Neuralgia, Hermicrania, Optic Atrophy, Otalgia, Deafness, Facial Paralysis and all diseases affecting cranial nerves.

The Arya Vaidyasala at Kottakkal offers treatments for all types of diseases. The above mentioned are only some of the special treatments given there. The treatments are always done by experienced Ayurvedic doctors.

The Arya Vaidya Sala is a huge organisation and its complex comprises of three Nursing Homes with all modern amenities besides a huge charitable hospital. A word about this charitable hospital: At the time of opening this hospital, there was no hospital, not even a dispensary at Kottakkal or anywhere near about maintained by the Government or, the Local Board, or by any public spirited citizen. Not only the poorer classes but the rich and the well to do also suffered immense difficulties on this account. Even emergent cases requiring admission and treatment at hospitals had to wait as there was no quick transport facilities in those days. Shri Warrier felt it was his duty to solve the problems by opening at least a small hospital for the benefit

of the villagers. With this end in view it was that he constructed the hospital. He named the hospital the Arya Vaidya Chikitsa Sala.

The poor and needy are admitted there as in-patients and treatment is given to them free of charges. Outpatients are also treated freely there. At first the Hospital was incharge of an Ayurvedist. But when a separate section for the modern system was opened there in June 1927, a qualified physician and a surgeon in Allopathy became the hospital superintendent. And ever since, the hospital has two sections, the Ayurvedic and Allopathic, under different physicians.

It may be remembered that Shri Warrier had never taken any financial help from anybody either for the construction of the hospital, or for the considerable recurring expenditure needed for its upkeep and maintenance besides the vast amounts spent on the patients. He had made it a point that the Arya Vaidya Sala was to run the hospital, funds needed for the purpose being taken always from the annual profits made by the Vaidya Sala. He has also been keen that even after his death, the hospital should continue its valuable services to the poor. The hospital remains, and will ever remain in the hearts of the grateful villagers, as an eternal monument testifying to the philanthropy and selfless service of a great man.

Later on both the Vaidya Sala and the Ayurvedic College prospered tremendously under the able guidance and hard work of his successors. A factory where medicines are prepared untouched by hand, under the most hygienic and scientific lines was installed. The Vaidya Sala has its own herbal gardens which are being maintained to meet the shortage of drugs needed for the factories. There is also another factory maintained by the Vaidya Sala at Kanjikode, at the foot of Western Ghats, built sometime back at a cost of Rs. 1.25 Crores. The Arya Vaidya Sala has branches all over India and abroad but Hospital/Nursing Home facilities are available only at Kottakkal. There are in all

over 700 agencies which have come into being all over India and abroad as in Malaysia and Singapore to cope with the ever increasing demand of their medicines from the people. A big nursing home has been built in the National capital of India, Delhi. It has been functioning in Karkar Booma since its inauguration by the President of India in October 2000.

Thus it will be seen that Vaidyaratnam P.S. Warrier was a pioneer in uplifting Ayurveda, the ancient Science of Life from the decay to which it had fallen into in the nineteenth century consequent upon the alien domination of our country. Ardently devoted to the cause of alleviating human sufferings, he put his heart and soul into the task of nursing and bringing up the small institution that he founded to a most efficient and prosperous one to cater to the vast sections of the sick and suffering. The dedicated successors of Vaidyaratnam followed the trail blazed by their great forebear and gradually built up the Arya Vaidya Sala into the vast organisation that it is today.

Shri Rama Warrier, one of the disciples of Shri P.S. Warrier, started another Ayurvedic institution by name Arya Vaidya Pharmacy, which too earned eminence in course of time. This is situated at Coimbatore in Tamil Nadu, which touches the eastern border of Kerala. This Ayurvedic Centre is a huge establishment now and offers almost the same kind of treatments as the Arya Vaidya Sala at Kottakkal.

The curative effects of Ayurveda are a wonder even to the protagonists of the modern system of medicine. Ayurveda eradicates the root cause of illness and gives permanent relief to the sufferer although the treatment may take a longer time. This system of medicine centuries old and propounded by sages has now come to be recognised the world over. This is evident from the inflow of patients from all parts of the world into Kerala.

The Government of Kerala has a separate department for indigenous medicines and Ayurvedic hospitals have been set up in all major places in the State. In this comparatively small state

there are in all 100 well equipped Government Ayurvedic Hospitals and 475 Dispensaries. This shows how popular this system is in Kerala. Besides there are Ayurvedic physicians practising in every village in Kerala. A large number of them are hereditary physicians.

In Kerala, the temples were the centres, of various cultural activities. All the deities were considered to be the guardians of people's health and who cured their ailments. Some got their sickness cured by daily going to the temples and worshipping the gods. There is the famous story of Melpathur Bhattathiri. Due to paralysis at a young age he went to Guruvayur Temple and started worshipping Lord Krishna who was the presiding deity of that temple. Every day he composed a sloka and offered it to Lord Krishna. These slokas were compiled and it is called Narayaneeyam, a famous work in Sanskrit. By the time he completed it he got cured. At the time when he went there he could not walk. But in course of time he could easily move about. The places where temples were built, the rituals connected with temples etc., were all planned with the health of devotees in view. At one time in the distant past, medicines were also distributed from temples.

It is said that in olden times there were Aathuralayas (Nursing Homes) and Vaidya Sala (medicine shops) attached to each important temple. In temples cultural shows like Ramanattam, Krishnanattam, Kathakali, Koothu, Padhakam, Ottanthullal, shadow-plays, puppet shows, etc., were held and people used to enjoy seeing them, forget their day-to-day problems, worries, etc. through them. These, therefore, bought a healthy state of mind to them. The Kerala temples encouraged or forced cleanliness. For instance, people were compelled to take bath in the temple tanks and then only enter the temples. All around temples health giving plants and trees were grown and even the air was kept healthy. The *prasad* from the temple like *theertha* or holy water like sandal paste, turmeric paste etc., are

good for the body. Tulsi leaves, which had great medicinal values, used to be kept in the holy water or *theertha* and were offered to the Bhaktas or devotees.

At the end it may be stated that the two scholars who influenced the Ayurvedic physicians in Kerala are Vaghbhata and Bhela. The latter wrote about various treatments, which were highly useful. For instance he devised good and effective treatment for lunacy and for children's diseases. His treatment was based on the waxing and waning of the moon especially for insanity, in which case along with the moonlight the medicated oil applied on the head increased. This sort of treatment called Chandra Chikitsa is not seen in any of the Samhitas and are supposed to have been devised by Bhela.

Ayurveda deals with Kayakalpa, which rejuvenates human beings. This is a very long process, in which the person who wants to undergo the treatment is kept exclusively in one room. He is not even permitted to come outside. The treatment is long and sometimes it extends for a month or more. If strictly followed, this treatment is believed to make an old man quite young. This has been undergone by some persons like Shri C.P. Ramaswami Iyer and Dr. V.V. Giri, when the latter was the President of India. In both the cases the treatment was held under the able supervision of the physicians of Arya Vaidya Sala, Kottakkal.

## REGIMENT TO A HAPPY LIFE

Ayurveda starts with instructions for practices to be followed in daily life. In the chapter of Dinacharya in Ashtangahrdaya, the programme for daily life is meticulously charted, right from getting up early in the morning to the time when one goes to bed at night. These steps are to promote the energy by which diseases are dispelled and life prolonged. The state of physique and the influence of time are co-related favourably. Life or ‘ayu’ is an ever-changing process—‘Eti Itayus’—Life goes on.

An important feature of Ayurvedic treatment outlook is that it takes the causes and ways of treatment not mechanically but by considering all the social and ecological factors. Man is a social organism. So his relationship with society is very important. Practice of virtue and proper behaviour according to social circumstances is important for keeping good health. Charaka says that diseases have their origin in the mind. “All diseases are due to *prajnaparadha* or wanton violation of obedience to the laws of nature and virtue.” So in the second chapter in Ashtangahrdaya, Dinacharya, which contains forty-eight slokas, twenty eight slokas insist on following the laws of virtue.

Ritucharya is the routine to be followed in each season. As already stated, there are six seasons in India. Since the three seasons Sisira, Vasantha and Greeshma are during the movement of the sun to the North, Uttarayana, it decreases our physical strength.

The other three seasons help to increase our strength. The

ancient Acharyas divide a year into two halves-Uttarayana and Dakshinayana. The fourth chapter in Ashtangahrdaya deals with Ritucharya.

This chapter is meant particularly to focus attention on cardinal factors essential to be followed to prevent the occurrence of diseases. The basic cause of all diseases and the guidelines in selecting proper treatment are given here. This chapter gives us the clue to keep our health at a proper level by way of instruction relating to wrong habits that would cause ailments and also guidelines to guard against them by timely action. Apart from giving the causes of all diseases, the ways and means of preventing diseases are also explained in detail in this chapter.

A study of these four chapters will help to have a basic knowledge of the fundamental vision of Ayurveda. For a beginner this study may be useful which partake the nature of primary instructions. These four chapters are therefore, the most important in Ashtangahrdaya.

The chapter on Dinacharya or daily routine gives important points to be observed by us for long life and healthy living. So said the sages Atreya and others:

“Brahmamuhurta uttishteth swastha rakshartha mayusah” meaning a swastha should get up in the Brahmamuharta or the early hours of dawn. The word swastha is defined as one who is within one’s own. He is not simply a man free from any diseases. Swastha is one whose Doshas are in equilibrium (proper order) and whose soul, organs and mind are in a pleasant state. Not only is one free from disease, but he is one, pleasant and active in playing the role he is entrusted with by virtue of his position in life and in society. Ayurveda starts from *swasthavrittha* the way of life, a set of rules to lead a healthy life. It appeals to all persons to promote life and to live the full span of life (full span of life according to our ancients was 120 years). Long life is necessary to fulfill one’s own mission in life. But long and healthy life is possible only if we adhere to the rules

of hygiene in our daily life with necessary adjustments to seasonal and other changes. Violation of these rules leads to sickness. Since prevention is better than cure, it is advisable to study the rules for the proper way of life and strictly follow them, understanding the basic principles. Therefore we start from Dinacharya, the daily regimen. A 'Swastha' is advised to get up in the Brahmamuhurta for protecting his life. It is bad if a healthy man sleeps in the early hours of the dawn, which is generally calculated as three hours earlier to sunrise. Since it is the time when the whole nature wakes up and springs to activity, getting up at that time agrees with nature and therefore is conducive to one's health.

After one gets up, he has to think over the conditions of his health. First of all, he has to think about the food he had taken the previous night and see whether it is properly digested, if not one has to wait until it is digested. Then attend to the call of nature and after proper hygienic washings, one has to clean the teeth by means of self-made brushes. The brushes prepared from medicinal plants like neem are the best. The herbal material powder for clearing the teeth can be a piece of Triphala or Trikatu as suggested in Ashtangasamgraha. It gives more names of trees to be selected for preparation of tooth brushes. After brushing the teeth the tongue is to be rubbed or cleaned with a tongue cleaner. Thus tongue, mouth and teeth are freed from being seats of impurities. Besides, loss of taste and bad odours are also prevented and appetite and cleanliness are gained. Samgraha says cleaning the teeth gives immediate appetite by removing the impurities of tongue, teeth and mouth and dental insensitivity to taste is removed. The tongue-cleaners used to be made also from metals like gold, silver, copper, lead and brass. When brushing the teeth is over, Ashtangasamgraha recommends the application of collyrium in the eyes. It is useful for protection, prevention and strengthening of eyesight and increasing the beauty of the eyes. Then Sanvisangana (also known as Srotonjana)

is to be applied in the eyes. By this, the eyelids get lubrication and so become smooth and dense. The three colours of the eye, red, black and white become very distinct. The eye also becomes pure and attractive and eyesight is improved.

Chewing of betel leaves with nutmeg, cloves, camphor, cardamom etc. gives strength to the chin power, to the voice, purity to the mouth, ability to differentiate tastes, increases appetite and prevents dryness of the throat, cracks of the lips and keeps the teeth strong and healthy, says Charaka. He however says that excess of betel chewing is bad.

Asthangahridays recommends oil unction on the head and all over the body to be practised daily. It removes decrepitude and weakness due to overexertion. It gives brightness and shine to the eyes, nourishment to the body, increases the span of life and promotes good sleep, good complexion and strength to the body. Oil is to be applied not only on the head but all over the body. It has to be practised daily. As axles, leather etc., are benefited by lubrication, so we too get benefited from unction of oil. It is beneficial to the skin also. Application of oil on the vertex is good for growth of hair and is a tonic for the scalp. Filling the ears with oil relieves pain on the chin, sides of neck, head and ears. Application of oil on the feet increases their firmness and removes numbness of feet, tiredness etc.

Lightness, efficiency of action, stimulation of gastric fire, reduction of fat, properly differentiated and firm physiques are created by exercise, advises Ashtangahridaya. The five benefits given above are gained from constant exercise. Exercises are to be taken after smearing the body with oil. In Ritucharya (seasonal routine), when presenting the routine for cold season, it is said that suitable oil should be applied on the head and massaged and then he should be engaged in duel with well trained mates and apply pressure on the body with legs also. So exercises follow unction. For protection of health, it says, there is nothing equal

to exercise. No disease occurs to one whose body is made strong with exercises.

People who take ghee with food can take more exercise. Unwholesome food is like poison, so too overeating. But even such food habits do less harm to those who take regular exercise. There is no other remedy equal to this to reduce obesity of the body, which causes quick ageing. After taking exercise, Apply pressure by massage all over the body. Massage is also a part of exercise.

Bath is considered to be very important for the body. It removes itching, dirt, physical exhaustion, sweat, lethargy, throat - burning sensation etc. After bath, one feels proper hunger and appetite. So before meal a healthy person is advised bath. Washing the body below the neck with water is good to increase strength. But washing the head with hot water decreases the strength of hair and eye sight. Total immersion inclusive of head is real bathing. After bath massaging the entire body with wet cloth is good. Bathing immediately after taking food blocks the alimentary system and hence bad.

After laying down the hygienic principles and steps to be followed in the order of sequence, directions for the next step i.e. taking the meal are given. Take only wholesome and proper food. Take only food which is beneficial and not what pleases us. And it has to be limited. Mita Ahara i.e. food that is just enough or limited food is recommended. Timely intake of food is also important. The proper time is, when the food taken previously is digested. Excessive eating causes serious maladies. It is more harmful than starvation. Untimely food is to be avoided.

Many other instructions are given for a healthy, clean life. For instance people are advised not to have friendship or dealings with immoral, unscrupulous and corrupt persons. Maintaining cleanliness and social appearance are deemed to be duties to be followed by all. When going for walks take an

umbrella to protect the head and shoes to protect the feet. Padatrana or protector of the feet is the meaningful term used for shoes. It is well known that many infections like worms affect the feet, including the bite of insects, reptiles etc. If the sole of feet is dirty, eyes are affected. Protection of the head from sun, rain, and mist is always to be undertaken to resist diseases.

Do not look at the sun at any time. Avoid facing winds from the front, heat of the sun for the first part of the day, dusty mist or rough winds. Realising that the world is our great teacher and by controlling ourselves and taking lessons from the world around we can be assured of safe living and promotion of health. Compassion towards all living beings, attitude of sacrificing for others as our own are the concluding parts of good observances. Ashtangahridaya says one who adheres to the ways summed up above avails of long life, health, prosperity and fame.

It will be seen that Ayurveda lays more stress on healthy living and prevention of diseases. If, inspite of observing the tenets of good living some one falls ill, treatment has to be given, but this is only as a last resort. It always believed that prevention is better than cure.

Titucharya is another important chapter in Ashtangahridaya. The seasons, as already stated, are Sisra, Vasantha, Grishma, Sarat and Hemantha. Each season lasts for two months. The first three beginning with Sisra belongs to Uttarayana. It is also known as Adana. This is during the northward movement of the sun. Sisra and Hemanta are cold seasons.

After taking the steps, the modes and means for safe guarding health by anointment, diets and others according to the conditions of the seasons, certain other methods are also prescribed by Vaghbata in Ashtangahridaya to promote a sense of happiness and elevation. After taking bath in the prescribed way, one can adorn the body with cosmetics, such as camphor, musk agar and saffron. They keep the body warm, and pleasant odour enhances happiness.

Spring is the season of flowers, celebrated by lovers. So everybody yearns to beautify the body with flowers to enjoy the thrill of the season. Easily digestible and nutritive food, suitable for the season, is recommended. Honey, old wheat and Barley are good. Meat of jungala animal (goats etc.), roasted on pikes, is light and easily digestible. After having such a diet healthy people are recommended to enjoy wines but in limited quantity, in the company of friends of similar age and status. But due care should be taken to select harmless and pure beverages.

Mandvika, Aasava, Arishta, Madhava and Sidhu are all alcoholic preparations. The preparation from grape is called Mardvika, from honey Madhava, the one from sugarcane is Sidhu. Aasavas and Arishtas are so named according to the mode of preparations. In Aasavas, the ingredients from which alcohol is prepared are crushed and put in water and left for fermentation. In Arishtas, decoctions of medicinal herbs are the medium in which yielding ingredients are put for fermentation. Due care is to be taken to select only old, pleasing and gay wines. To make it more hilarious and fascinating they are mixed in the nectar of mango flavours. Vaghbata goes poetic when he talks of wines. He says "These wines are served by beautiful women who sweeten these by the touch of their lips. This increases their flavour and it is made more charming by the glances of their beautiful eyes resembling the petals of blue lotus". But those who are averse to wines or are prohibited from using them can enjoy other beverages prepared by boiling the medicinal herbs like the core of Indian Kino (Asana), Nutgrass (Musta) dry ginger (Sunthi) or honey with water. He adds "Spend the mid-day in Fragrant gardens with various colourful flowers and plants, having water pools around, cooled by the southern wind and where the sun is sometimes seen but often hidden behind the thick foliage and where the earth shines with beauty like jewels creating an amorous air and is sweetened by the melodious songs of Koels in happiness". Vaghata concludes

this chapter thus. "Always resort to wholesome diets and congenial movements, acting only after due deliberation. Avoid over indulgence in sensual pleasures. One who is generous, equitable of mind, truthful, patient and follower of great men becomes free from diseases. Actions avoiding *aparadhas* in tune with moral principles and physical well-being are to be undertaken. Proper observation and critical evaluation of each commitment are to be made before any endeavour. Sympathise with all living beings and be generous in helping others. Always stick to truthfulness and patience. Look up for guidance to noble personalities. If one follows these instructions no disease afflicts him". The word *apta* is defined by Charaka. "Those whose knowledge is always pure and without obstructions are the Aptas, Sishtas or Budhas. Their word is never to be doubted. This is what Ayurveda aims at - to make people mentally and physically healthy."

Ashtangahrdaya, which is generally followed by the Ayurvedists of Kerala contains 120 chapters. It is according to the life span of a man which is estimated to be 120 years. These are divided into six Sthanas as Suthrasthana which thirty Sthanas again as Suthrasthana (anatomy and physiology) with 6 chapters as Nidana (astrology and diagnosis) in sixteen chapters, as Chikitiasthana (treatment) in twenty two chapters as Kalpa (preparation, measures etc.) in six chapters as Uttarasthana (where other diseases, treatments, rasayana, vajeekarana etc., are included) in forty chapters.

Suthrasthana contains all the basic principles of Ayurveda. Starting from *Swasta vritta*, it lays down the rules and ways of hygienic living, violations of which leads to diseases. In fact one who studies Suthrasthana thoroughly gets all the basic ideas clearly, and a study of the remaining Sthanas makes him a master of medicine.

The portion of the selected few chapters dealt with as above, though a part of Ashtangahrdaya, contains its essence and has the status of a miniature whole. The first chapter

Ayurkameeya is an introduction to all the basic precepts of Ayurveda and a briefing of the contents of the whole text. Ayurveda is a field-oriented, functional, holistic system. Starting with the mythological version of the origin of Ayurveda from Brahma and how for the convenience of treatment, it is divided into eight parts, it introduces the three Doshas (Vata, Pita and Kapha), their properties, the seven Dhatus, the Malas, how they are increased, decreased or vitiated, the six tastes and their effect against Doshas, the three effects or materials on organism, the veeryas the vipakas, the properties of materials, the basic cause of diseases as Nija and Aganthuka, their base as mind and body, the two Doshas of mind, how patients are examined and diagnosed, the different types of localities and the medicines, the idea of time, the two approaches of treatment as purification and pacification of each Dosha, the four factors of treatment, the diagnosis and the patient whom the physician is not expected to attend are all brought to study in the first chapter.

The second chapter introduces the most basic approach of Ayurveda - the problems of health and ill health depending on our ways of life. There is a statement in later context that the edifice of organism is in the proper management of food, sleep and sex. In the case of food, not only the quality of food, but also the time in which it is taken, whether in company or alone, the mental state at the time of eating, the condition of the mind affected by social and ecological conditions, all have their influences on the proper digestion and assimilation of food. The question of how to lead a proper life is properly assessed by our Acharyas, starting with the presentation of a model way for adapting to all changes and conditions that one may face in one's own life.

The third chapter contains the routine to be followed in each season and the fourth chapter is meant particularly to focus attention to be conditional factors essential to be followed for the prevention of diseases. This chapter also gives us the clues to keep our health in proper condition by instructing how to be aware of

the wrong habits that would lead to diseases and to guard ourselves by timely purification. Apart from the presentation of the basic causes of all diseases, the ways and means by which diseases are prevented and cured according to the Ayurvedic principles are also explained in detail here.

A study of these four chapters is helpful to an average individual to have a basic knowledge of the fundamental vision of Ayurveda. No doubt, it is not at all meant to learn this ancient science but for a beginner this will be useful as a primary introduction.

## **THE SPREAD OF AYURVEDA:SUGGESTIONS FOR FURTHER IMPROVEMENT**

**I**t is heartening to note that our ancient medical science, Ayurveda, has crossed India's boundaries and spread far and wide in developed countries. There it has received due popularity and faith. Under the guidance of Maharshi Mahesh, there are about 14 Ayurvedic centres in America, Italy, Holland and Australia where Ayurveda is being taught and practised. It has became popular in Latin American countries also. In these countries although Allopathy has advanced very much, why is it that Ayurveda is attracting so many people? It is because this medical system diagnoses the ailments of patients and prescribes the right type of medicine. Ayurvedic medicines do not have any adverse effect on the patient. The modern system of medicine, even though providing immediate relief, does not eradicate the root cause of the ailment. Further it does not give complete cure. Ayurvedic medicines are also close to nature. They are suitable to the environs of the patient. Disillusioned with the Western medical system, more and more people are now fond of traditional herbal medicine. This green wave is likely to gain momentum in the years to come. The immense possibilities of this systems in achieving the proclaimed goal of health for all by 2000 AD as enshrined in the Alma Ata Declaration, are now being realised by the international community.

The medical systems prevalent in India, China, Mesopotamia and Egypt merged with the Greek medical system. Ayurveda and Chinese systems later became Arabian medical

system and all these formed the modern medical system. But out of the ancient medical systems, Ayurveda and the Chinese system had their own separate existence and flourished side by side in course of time. After cutting off its bondage of Mantras and Tantras, Ayurveda developed till it reached the age of Samhitas which can be considered the golden age of Ayurveda. It tackled all health problems at this time most effectively. The question is whether Ayurveda can meet the present challenges. The government is trying to set up Ayurvedic centres even in remote areas and seeing whether it can tackle the present day problems regarding the health of its citizens.

The importance of pure water was recognised by Ayurveda long back. Pure water contains many medicinal properties and it was even prescribed as medicine for certain ailments. In those days, of course, pure water was available in plenty and that was why many airborne diseases were unknown at that time.

Many effective remedies were invented by Ayurvedists as a result of research. An example is the antidote for Vasoori or smallpox, called Govasoori. According to the records of the East India Company, this was invented by Indian physicians. Now it is being used throughout the world. It is not easy to enumerate the endless capabilities of Ayurveda. Researches are being made in this connection. For instance a medicine by name Sarpagandhi, which is prescribed in Sushruthasamhita, is considered to be an excellent remedy for blood pressure. Sometime back an article written by Durlong Vaitib appeared in the British Heart Journal, praising its efficacy. Similarly Kizhanelli, a plant recognised as an important medicine in Ayurveda is considered to be an effective remedy for Hepatitis virus. This was found out by the Bacteriology Department of the Madras University. It has also been recognised as a remedy for Aids virus. Further research is being held in this connection. Similarly a drug made out of the root of Chemparathi, Kuppamanjal and Karuka are being experimented as an antidote

for blood clotting. Gulgulu is also found effective for this malady. Besides this many experiments with the help of Ayurvedic physicians are being conducted in the K.E.M. Hospital in Bombay.

Mukkippizhichil or Paathy Chikitsa which have become popular among foreigners is a contribution of Ayurveda. When we compare Ayurveda with the medical system contained in Hippocratic corpus of Europe, the critics say that Ayurveda is far superior to the other. It is Ayurveda which is closer to nature. It gives more prominence to exercise and clean way of life. Out of about 2200 medicinal plants it is estimated that 1700 are available in India. But about 240 medicinal plants have become extinct by now.

It is heartening to learn that Ayurveda is gaining more and more relevance today than ever before. The consistent increase in enthusiasm towards Ayurveda in recent times has resulted in a new area of marketing i.e. serving the needs of patients who seek natural products. More and more people are turning to natural products due to various factors such as limitations and side effects of modern medicines. Because of this even in developed countries Ayurveda had started getting its due to treat diseases which vary from simple problems like indigestion to diseases like Arthritis, Psoriasis, Diabetes, Spondilitis etc., which severally affect the quality of life. People have started looking at it as an alternative holistic health care system. This paradigm shift has opened a new door to India to play a major role in the international health care market.

Apart from the Ayurvedic products treatment procedures also have a good international health care market. The Panchakarma mode of treatment has already gained world wide attention as effective and safe curative procedures for many health problems. Further, many of the pre-operative procedures known as Kerala's special treatments have good rejuvenative properties which can be effectively utilised for slowing down the

ageing process, thus giving better health and complexion to the body.

However the question today is whether India's Ayurvedic sector is equipped to meet the emerging requirements of the world market. Many know these opportunities but no co-ordinate effort has been taken by the Government of any State to develop this sector. In Kerala for instance the total turn out of Ayurvedic products has been remaining stagnant at Rs.100 crores for the last few years. Out of this five percent is in the organised sector i.e. in the form of trusts, private or republic limited companies. The balance is produced and consumed by the local Ayurvedic physicians in their clinics as a home industry with a license from the State drug controller. Even in the organised sector most of the companies have an annual turnover of 10 crore rupees.

The rules and regulations of this sector all over India are quite old and totally incapable of supporting the industry in modern developments. Except in a few units like the Arya Vaidya Sala or Arya Vaidya Pharmacy and a few other units, in several outdated other units in Kerala the product standardisation and quality control efforts are totally absent and manufacturing plants with Good Manufacturing Practice (G.M.P) certificates are nil. Even the production in clean and hygienic conditions which are essential for the products in the international market is not ensured. The government is not implementing these mandatory requirements, basically due to heavy pressure from the large number of physicians operating in the unorganised sector. Most of them have no financial and technical capacity to implement these basic quality control requirements.

In most of the organised sectors also the production is not done in well-organised plants. Several mechanised plants use only improvisation of old manual procedures for a higher batch size. The result is high cost of production and difficulty in quality control. Much more research and development efforts are needed to epitomise and engineer the process and equipment

systems. The Drug Control Authority should take a non conservative role and should develop their expertise to assess the newly developed procedures as regards quality and efficiency of the products. For this there is an urgent need for close interaction between the pharmacologists, process engineers, equipment designs and practising doctors. It will also need a lot of financial input which is not affordable for any of the product manufacturers.

So a common institution with the participation of the Government Drug Control Authorities. Manufacturers and Ayurvedic practitioners is urgently needed in every state. The quality control methods adopted cannot be replicated in case of Ayurvedic products due to its compound nature and natural sources of raw materials.

A major threat in the field is the depleting sources of herbs. Herbs are the basic ingredients of Ayurvedic products. The need for a coordinating agency to develop, perpetuate and implement the scientific cultivation of herbs is an urgent necessity. Presently more than ten State Government agencies are working in this direction but there is no co-ordination among them. This results in the wastage of money without any advantage to the industry. Apart from scientific cultivation, scientific storage of herbs without affecting their quality is also important.

Now the only area where some efforts are made in association with the Tourism Department is to develop the Ayurvedic rejuvenation centres in hotels and tourist resorts. These are basically to give the tourists a feel of Ayurvedic treatment. But the scope of Ayurvedic treatment is much more. It can effectively cure chronic ailments such as Arthritis, Diabetes, Piles, Psoriasis, Skin troubles etc. In order to top this market, the number of our Ayurvedic practitioners, therapists who administer the treatment and hospital facilities have to be increased. Further, there is a growing awareness among patients about the treatments and the rules to be followed during the process. So the development should be on the four pillars of the Ayurveda, i.e.

physician, medicine, therapist and patient.

Many of the problems of old age can be effectively tackled through Ayurveda. In this connection hygienic hospitals with well-trained doctors and other service staff are required. This is not only to cure the patients, but also to care for them. For developing such facilities and convenient places, Indian Corporates can associate with experienced practitioners of Ayurveda. So far no steps have been taken in this direction. The present trend of setting up Ayurvedic massage parlours at tourist centres with unhygienic facilities and unscientific treatment with untrained staff will give only a bad reputation to Ayurveda. It is an urgent duty of the Government, therefore, to stop these practices with strict regulatory mechanism. It is also highly necessary to develop the operators who can offer good facilities and treatment services of a good standard.

An urgent need for the Ayurvedic industry in the country is to develop their brand equity at the international level which involves huge financial investment. There is also need for financial assistance at concessional rate for developing such brand equity. For this the government has to come forward. The improvements suggested above are prerequisites for the image building process of Ayurveda.

Although the Government has put Ayurveda on the priority list for India's industrial development, that alone will not suffice for its development. There is an urgent need for growth in this field which is to be effectively utilised for R&D, improvement of facilities, development of human resources etc. Otherwise it will only result in mushrooming of product manufacturing units without adequate facilities for quality production. It will only spoil the sector rather than develop it. In brief, Ayurveda in India has to undergo an urgent rejuvenation process to regain its strength to enter the world health care market.

Turning to some special features of Ayurveda it may be stated that the concept of drug in Ayurveda is slightly different

from that in modern medicine. The term drug derived from the French word 'drogue' (a dry herb) is defined as "any substance or product used to modify or explore physiological systems of pathological states for the benefit of the recipient". As already stated elsewhere, the Ayurvedic equivalent of drug is Oushadha or Bhesaja, that which overcomes Osa or Bhesam, distress or even fear of diseases and includes anything material or means, used for this purpose. Therefore even food, fasting, penance, incantations, sleep, sunlight, shade and faith in physicians are prescribed in Ayurvedic therapeutics for recuperation, from ill-health. In fact, Ayurvedic physicians prescribe not only medicines, but also a whole course of behaviour that would help recuperation because the Doshas which manifest as diseases will be aggravated by things, climate and activities not suitable to the constitution of the body and mind of the individual.

Ayurveda, by and large, is an experience with nature, and unlike Western medicine, many of the concepts are beyond scientific explanation in the modern sense of the term. Western medicine relies on the principles of physical sciences to explain various aspects of health science. This concept is not acceptable to the men of Ayurveda. The concept of science cannot be limited to physical science alone, instead it should explore physical, living and the conscious phenomena. The domain of science is more extensive than that of physical science. One of the ancient commentators, Jayantha, says that the very large number of medicines, their combinations and applications are of such an infinite variety that it would be absolutely impossible for anyone to know them by experimental methods. This has been concurred by recent authors as well.

In Ayurveda, drugs play a significant role. The source of plants of drugs are called Oushadha, even though this term is used for plants in general. Out of Ayurvedic drugs, plant drugs form the lions share. With the gradual depletion of forests, impairing the availability of raw drugs, Ayurveda like other

systems of herbal medicines has reached a very crucial stage. About 50 percent of the tropical forests, the treasure house of plants, have already been destroyed and the remaining part may not stand the onslaught of man for another decade. In India alone about the 55,2000 sq. kms. of forests we had in 1975 have been reduced to 45,7000 sq. km. by 1982. Forests in India have been disappearing at an average rate of 1.5 miles per hectare every year, and what is left at present is only 8 percent as against a mandatory 33 per cent of the geographical area. This wanton destruction has rendered almost 3-4 thousand species of Indian plants on the verge of extinction. This is the case in most of the developing countries which find themselves between the devil and the deep sea in matters of conservation of their forests. In spite of the public awareness this is likely to continue in the coming years. There are no serious attempts at adequate regeneration of forests. Instead the degraded lands are very much sought after for various developmental needs.

The extensive forest destruction has resulted in the extinction of many valuable herbal plants along with many others which would have been potentially useful later. Even the extant ones are not available in sufficient quantities, nor do they yield to cost effective procurement, as they have receded to inaccessible areas. Thus, we don't have the much renowned Rasayana (rejuvenative) drugs of the Ashtavarga group which are now being substituted with various other herbs. In fact, we don't have even a rough estimate as to what the loss of such species mean in terms of national economy.

Indiscriminate exploitation of herbal drugs has also been responsible for the present state of affairs, in a large way. Some of them have been in great demand in the world market. It is estimated that every single species that goes extinct will cost the exchequer to the tune of 203 U.S. dollars.

So, unless we evolve a sound system for conservation of forests and for rational exploitation of medicinal herbs, it is

going to be fatal for herbal medicine in future. This problem has of late been discussed in detail. But, no feasible solution has been found out so far.

Even as the plant resources are getting depleted, there is a steady decline in human experts capable of recognising the various medical herbs. The ancient sages suggested that they have to be known with the help of hermits, shepherds and tribals. But these are also a vanishing lot. Our experience with the nature of the flora and fauna have, with the increasing urbanisation, industrialisation and consequent changes in life-style, reached the rock-bottom. Unlike in olden days, when physicians themselves used to collect the herbs, prepare and administer the medicines, the present generation of Ayurvedic physicians, with prepared medicines in the market, have degenerated into prescription writers like their counterparts in Western medicine, without much knowledge of the constituent herbs of the drugs that they are prescribing. As a result, the industry is forced to accept the herbs they bring on their terms without question. Herb Collectors, on their part, unable to meet the increasing demand, adulterate the drugs with similar plants, thereby undermining the quality of the drugs and credibility of Ayurveda. Pharmacist, trained as they are in the traditional way, to recognise the plants and plants parts by size, shape, colour, smell and taste are totally ill-equipped to meet the challenge posed by widespread adulteration. All check-points in between have vanished over the years. The state of affairs with regard to pharmacology of Ayurvedic drugs is in a state of chaos. There is an increasing realisation of the pitfalls of this among men of Ayurveda and urgent steps for standardisation of raw drugs are being considered. However, even the stray studies that have been trickling in are on standardisation of prepared drugs, forgetting the fact that without standards in the herbal sources of raw drugs there cannot be any standard in the prepared drugs. So the first and foremost need of the day is

to have a uniform pattern in the selection of various herbal sources of drugs.

It is however heartening to learn that the export value of crude drugs from India in the international market has increased 2.76 times between 1985-86 and 1994-95 and now stands at 53.2 million. While concluding this chapter, it may be stated that a systematic survey of all medicinal flora is the need of the hour.

## SOME APHORISMS IN AYURVEDA

In the preceding chapters, mention has already been made of some instructions contained in Ayurvedic texts for the well-being of man. Before I conclude, certain other guide-lines for good living of a different nature, and some other topic of Ayurveda are deemed to be necessary to be included. For the benefit of those who could not study the original texts, I have compiled selected passages, which are given below.

One is astounded by the huge conceptual canvas and frame-work of Ayurveda. It is important to note that Ayurveda is not confined only to medicine, it tackles the entire subject of life. This can be known by the variety of topics discussed therein, such as re-birth, renunciation, salvation (Moksha), soul (Atman) etc.

The purpose of life is four-fold: *Dharmartha-karmamoksha* meaning Dharma(virtue), Artha (wealth) Kama (enjoyment) and Moksha (salvation). To achieve success in this four-fold purpose of life, it is necessary to have positive health.

It is essential to lead life not only in a disease-free state but also in a positively healthy state of body, mind and spirit. As stated already, in order to maintain good health, Ayurveda prescribes specific daily routine. Great emphasis is given to diet which is to be taken in a proper way with regard to quality, quantity and frequency. Importance is given to physical exercise and personal hygiene. The daily regime recommends not to suppress certain physical urges like hunger, threat, sleep etc. On the other hand suppression of harmful

physical urges is advocated - like greed, fear, anger, vanity, jealousy, malice and excessive attachment to anything.

Mental health is also given equal importance. For this a regime of Sadvrutha is prescribed. Strict mental discipline and adherence to moral values is considered a pre-requisite for mental health. Charaka Samhita says : "That is named the Science of Life wherein is laid down the good and bad life, and what is wholesome and what is unwholesome in relation to life, and also the measure of life".

Ayurvedic Aphorisms have relevance even to-day. The objective of the science of life is establishing equilibrium of the body elements. The morbidity of the body is remedied by medication, the morbidity of the mind by spiritual knowledge, philosophy, fortitude, and concentration.

A happy man is one who is not afflicted by bodily or mental ailments and who is endowed with youth, strength, virility, boldness befitting his abilities and who is actuated in his deeds by the combined urge of knowledge, science, the senses and who is possessed of multifarious and delightful amenities occurring from great wealth, whose efforts are prosperous and who can play as he likes. A life to the contrary is called unhappy.

The nature of good life is defined thus: The life of a man is deemed to be good if he is a well-wisher of all creatures, who does not desire other people's wealth, who always tells the truth, who loves peace, who acts with deliberation, not negligent, is devoted to the four ends of life i.e. *Dharma*, *Artha*, *Kama* and *Moksha*, who respects respectable people, who is of a scholarly, scientific and retiring disposition, partial to the company of elders who can curb his passions for desire, anger, envy, pride and conduct, who constantly does charitable acts, contemplative of the good in this world and the next, and endowed with memory and understanding.

Life of a different nature is said to be not good. A code

of conduct for healthy living is laid down. The wise man who seeks happiness both here and hereafter, should take care in selecting wholesome food, conduct and behaviour. The length of life depends on the care one takes in his day-to-day life. He who rightly observes the rules of heart will live the full measure of hundred years of diseaseless life.

Virtues of clean life are given due prominence. They are: bathing, wearing of neat clothes, trimming of the hair, beard and nails, frequent ablution of the feet. Charaka says, "like The lord of the city in the affairs of that city, a charioteer in the management of his own body. Gradually the wise man gets rid of his unclean habits, so also by degrees he should develop clean habits. Then they are firmly implanted." As already stated, Ayurveda, more than any other medical systems, lays particular emphasis on food and exercise. Food is the principal factor which materially contributes to the strength, complexion and utility of human beings. " That should be known as the proper measure of food which when taken, is digested in due time without impairing one's health. " An excess or surfeit of food is definitely harmful unless the gastric fire is increased by hard exercise".

Exercise is necessary to increase one's strength, firmness, tolerance to hardship, subsidence to humoral discordance and stimulation of gastric fire. But over-exercise is always to be avoided. Over-exercise results in fatigue, exhaustion, wasting, thirst, asthma, cough, fever and vomiting.

Mind control is given great prominence in Ayurveda. It consists of restraining the mind from the desire for unwholesome objects. " On the other hand those desirous of their welfare both in this and the next world, should suppress the rash and evil impulses of the mind, speech and body". The wise man should control the impulses of greed, grief, fear, anger etc. One should control the impulse of the speech that is harsh, extravagant, insinuating, untrue and untimely. One should control the impulse of all such activities as are injurious to others such as adultery,

theft and violence". "Do not give way to anger and joy, nor your sorrows. One should not be arrogant in success or dejected in defeat, remind yourself constantly to the vanity of things, be decided as to causes and their effects and consequently devote to benevolent enterprises".

Diseases catch those who do not follow the rules of healthy living. So the healthy man should be diligent in observance of the rules of healthy living. And he alone can remain healthy, who regulates his diet, exercise and recreation, controls his sensual pleasures, who is generous, just, truthful and forgiving and who gets along well with others.

Medicine is an equaliser of increased and diminished elements. It brings down the excessive elements and augments the deficient ones. There are two types of medicines. One promotes vigour in the healthy and the other destroys disease in the sick.

Mention has already been made of the four pillars of treatment, qualifications of a physician, a nurse etc. The physician has a great responsibility. Sushruta emphasizes it: "A drug, if it is not understood properly, is comparable to poison. A drug, though known, if it is not properly administered, is dangerous. Even acute poison is converted into an excellent medicine by the right method of preparation, while even a good medicine may become acute poison if improperly administered".

The corpulent and the emaciated are equally sick, as corpulence is caused by overeating, by the use of articles that are heavy, sweet or cold, by lack of exercise, by day sleep, by lack of mental exertion and by inherited tendency.

The emaciated cannot stand the strain of exercise or a full meal or hunger or thirst, or disease or strong medication. Similarly they cannot bear great cold or heat. They suffer from splenic disorders, cough, piles, abdominal affliction, and other disorders.

The over-corpulent is described as one who on account of

the inordinate increase of fat and flesh is disfigured by pendulous buttocks, belly and breast, and whose increased bulk is not matched by a corresponding increase in energy. The emaciated man is described as one who is lean of buttocks, belly and neck, who is covered with a network of prominent joints. "These two, the very corpulent and the very emaciated are perpetually afflicted with diseases and are to be treated with constant slimming and nourishing remedies respectively. For reducing fat, heavy but non-nourishing food should be given while for building up the emaciated, light but nourishing food should be given". Of the two, emaciation is the lesser evil, though both alike require to be remedied. When both fall ill, it is the corpulent that suffers more. A man well - proportioned in flesh, well-knit in figure and firm by senses, is not overpowered by the violence of disease. He is able to endure hunger and thirst, heat and cold and the strain of exercise, and has normal digestion and assimilative powers.

The signs of approaching death are vividly described in the texts. A man whose body exudes a mixture of unpleasant smells, or a single smell is to be regarded as one showing fatal symptoms. Flies, lice, wasps and mosquitoes get repelled and turn away from the bad taste of the body of the man about to die. In the patient's body the following abnormalities are noticed. The absence of throbbing in those parts which are always throbbing, coldness of the parts which are always warm, rigidity of those parts which are always soft, the looseness, sagging or dislocation of joints, the paucity of flesh or blood, excessive sweat, also whatever else is abnormal and unaccountable.

If the patient's respirations are either too long or too short, it is to be concluded that death is nearing. If the two sides of the neck, on being felt, are observed not to pulsate, if the patient's eyes are not normal viz. Protuberant, too shaken, too oblique, not symmetrical, either perpetually open or perpetually closed, then it should be concluded that the patient's death is imminent.

The testing of poisonous food is also prescribed by the

texts. In case of poisoning of the food, the physician should throw part of it in fire. The fire burns abnormally when the food containing poison is thrown into it. The flame becomes variegated in colour like the feathers of the peacock and the smoke is acrid, intolerable, dry and smells like a corpse. The physicians attached to the king had to test the food in the royal kitchen very often and so these tests were of great help to them.

There is a test which Nagarjuna has found out to test the curability of a patient. He calls it Taila Bindu Pariksha. A drop of sesame(til) oil is gently placed with the help of a hay stick, on the surface of urine collected in a small vessel. If the oil spreads over the surface, the disease is curable. If the oil drop remains suspended, the disease is difficult to cure. If the oil drop settles in the bottom then also the disease is incurable.

Certain advices are also given by our ancient medical science regarding the code of conduct during discussions. One should not rejoice in the discomfiture of another. One should not boast before others. One should not expatiate on what the other is not acquainted with. Great importance was given in Ayurveda for proper dosage of drugs. Charaka States: "All treatment depends upon dosage. There can be no compounding of drugs without taking into account their measure of dosage". An overdose of medication, he says, cannot cure the disease just as a small quantity of water cannot quench a great fire. And medicine given in overdose will prove harmful, just as excessive watering harms the crops. So, after carefully considering the severity of the disease and the strength of the medication, the physician should administer the medicine, neither in too large a dose nor in too small a dose. The dosage of medicines is dependent upon the individual patient.

The wisdom of Ayurveda lies in incorporating a code of conduct in the science of life, as a means of attaining mental health and happiness.

We cannot say whether it was a fortunate or unfortunate

accident when man first discovered that the juice of grapes, if allowed to ferment, becomes wine. Alcoholic beverages have been used since the dawn of history. Charaka has all praise for wine. He refers it as "the destroyer of sorrow, unhappiness, fear and distress". In addition to its beneficial effects as an appetiser, tonic, tranquilizer and anaesthetic, wine was used by our ancient physicians as an active therapeutic agent derived from plants. In Europe, in the middle ages, alcohol was the long sought-after elixir of life. It was considered to be a remedy for almost all diseases as indicated by the term 'whisky' which in Gaelic means water of life.

Intemperance, however, created problems. All over the world we see the immense toll caused by over-use of alcoholic drinks in terms of illness, disability and death, accidents, crime, family disruption, economic and psychologic hardship. The havoc caused by alcohol is underestimated rather than overestimated.

Charaka Samhita gives a balanced and objective evaluation of the merits and demerits of alcohol, which appeals to the present day reader. A person who drinks, he says, whatever comes in his way, and whenever he gets an opportunity, and whose body is dry due to constant exertion, that very wine acts as poison. He divides it into three stages. In the first stage of intoxication, the mind becomes stimulated. In the second stage the vital essence is slightly affected and in the third stage, it is completely affected. No doubt when the brain is affected by the section of alcohol it results in exhilaration, ardent desire, exultation, sense of happiness and various changes according to the psychic make up of the person. It promotes sound sleep and happy awakening. This is the first stage of alcoholic effects. But when the brain is affected too much, it results in fitful recollection, forgetfulness, indistinct thick and laryngeal talk, unsteady gait, impropriety in sitting, drinking, eating and conversation-these are known as symptoms of the second stage of alcoholic effects.

After crossing the second stage and before reaching the last stage there is no impropriety which persons will not commit. Charaka asks which wise man would ever wish to be intoxicated to an extent which is as frightful as insanity, even as no traveller would select a road which leads to an unhappy end and which is beset with many troubles". He adds " Having reached the third stage of intoxication, he becomes paralysed like a felled tree, with his mind submerged in intoxication and stupor, and though alive, he resembles a dead man."

Tobacco smoking and its effects are not mentioned in Ayurveda. It is not known when the practice of tobacco smoking was started in India. Tobacco chewing, however, was in vogue for a long time. Smoking by Hookah was probably started after the Muslim invasion. But hookah smoking is less injurious as the smoke comes after filtering through water.

Before I conclude this book I would like to deal with the subjects of rejuvenation in Ayurveda. The desire for youth and the distaste for old age have always interested mankind from antiquity to modern times. The subject is concerned with longevity, since those who are naturally long-lived are thought not merely to live long but to retain their vigour as well. The aim is to add life to years, not merely years to life.

According to Hindu mythology there has been a progressive decline in longevity. From 400 years in Kritayuga, 300 years in Tretayuga, 200 years in Dwaparayuga we have come to 100 years in Kaliyuga.

Two parts of Ayurveda are devoted to rejuvenation. Even in old age it is possible to regain youth and remain youthful for a very long period. Charaka Samhita claims that it is possible by a special course of rejuvenation to transform entirely an aged and diseased body into a fresh and youthful one. This treatment was perfected by the physicians of Kerala since times immemorial and many have benefited by it-mostly rich people, nobleman and kings. The qualifications of a person fit for rejuvenation, as laid

down by Charaka are as follows:- "A man who has fortified himself with resolution and purpose, full of faith and single-mindedness, having cast off all sins of the heart, and cherishing goodwill for all creatures".

"No man who has not rid himself of the evils both of mind and body, beginning with the gross ones, can ever expect to get the benefits resulting from vitalization". In Hindu mythology there is the story of Yayati who regained youthfulness. Similarly, through this treatment, an old man can expect to become young and enjoy youthful life for a number of years.

Procedure for vitalisation therapy is as follows:- "In an area resided in by princess, the twice born (Brahmin) communities, saintly men, men of virtuous deeds, free from alarm, salubrious, close to a city, where the necessary appurtenances may be had, one should, having selected a good site, build a retreat with its face towards either the east or the north. It should be high-roofed and spacious, built in three concentric courts, furnished with narrow ventilations, thick walled, congenial in all weathers, well-lighted, pleasing to the mind, proof against noises and other disturbing agents, untenanted by women, and having physicians and Brahmins ready to call. Thereafter, during the sun's northern course, in the bright half of the month, when the day and stellar constellations are propitious, the man seeking revitalisation enters the retreat having fortified himself in his resolution and purpose, full of faith and single-mindedness, having cast off all sins of the heart, cherishing goodwill for all creatures".

Thirty seven "infallible" modes of application of vitalizers have been given. All the recipes are backed up by firm assurance of "a hundred years of youthful life". The real message lies in the Ayurveda approach, rather than the prescriptions themselves:

"All ills of the body arise from addiction to faulty diet, irregular times or irregular quantities of meals, overindulges in food when the stomach has not yet recovered from the last meal,

addiction to day sleeping, sex and wine, persons whose bodies are strained by faulty or inordinate indulgence in exercise, and victims to fear, anger, greed, infatuation and over-work".

"It is on account of such practices that the muscles become flabby the joints become loose, the blood becomes decomposed and vitally depleted. One becomes languid and sluggish. Such a man fails to enjoy his full span of life".

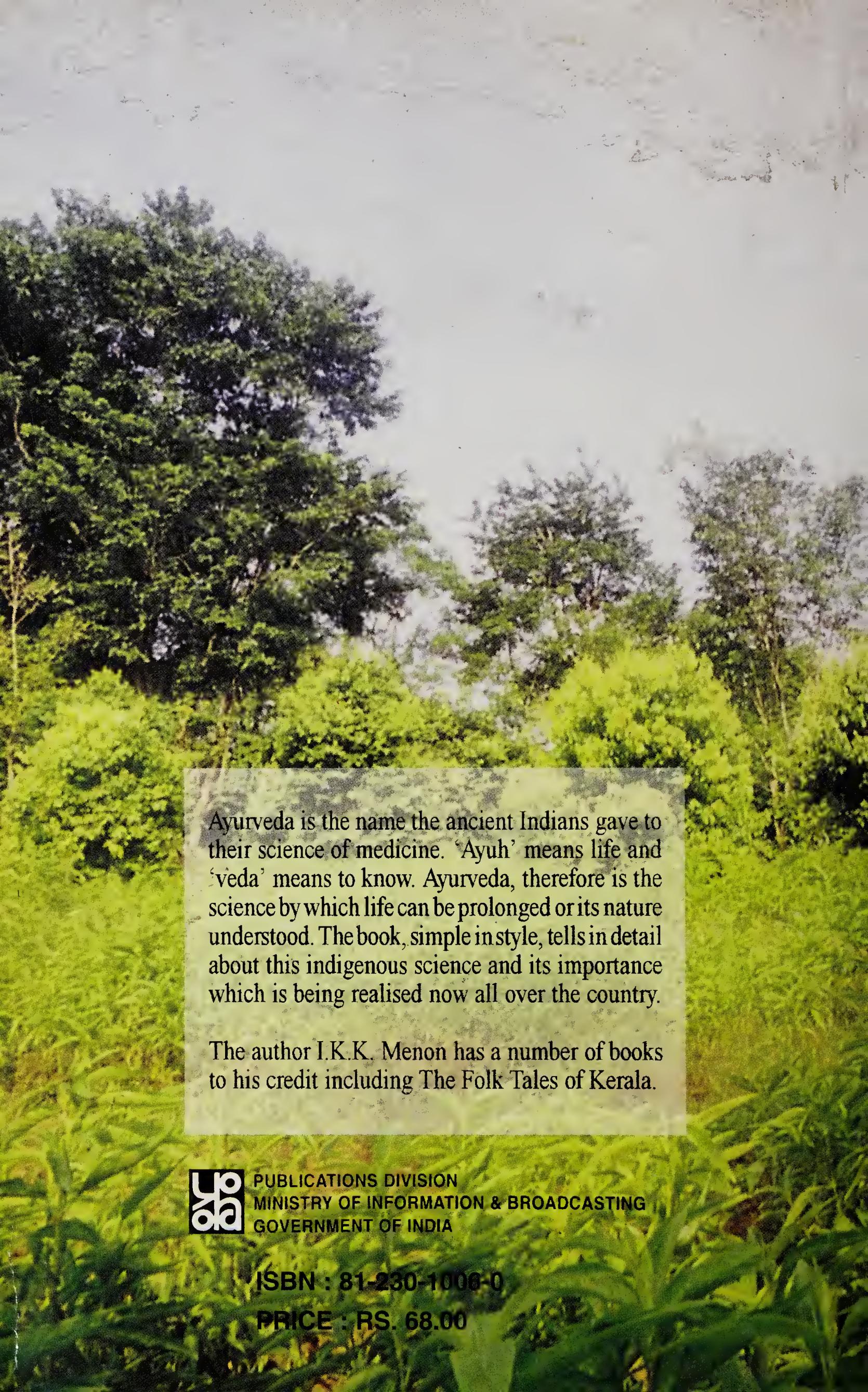
Therefore, one should give up the above mentioned unwholesome diet and follow the right regimen of life to avail of the vitalizing process.

"One who is honest, free from anger, who abstains from alcohol and sex, hunts no one, avoids overstrain, is in spiritual endeavours, always compassionate, moderate and balanced while awake or in sleep, devoid of egotism, blameless of conduct, spiritual in temperament, and attached to elders and men who are believers and self-controlled and devoted to scriptural texts if one endowed with all these qualities makes use of vitalizations therapy, he will reap all the benefits of vitalization".









Ayurveda is the name the ancient Indians gave to their science of medicine. 'Ayuh' means life and 'veda' means to know. Ayurveda, therefore is the science by which life can be prolonged or its nature understood. The book, simple in style, tells in detail about this indigenous science and its importance which is being realised now all over the country.

The author I.K.K. Menon has a number of books to his credit including The Folk Tales of Kerala.



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