Chapter 4

ANCIENT TREATISES ON INDIAN MEDICINE
(as referred to in Mānasollāsa)

An effort has been made in this chapter to understand the concepts of ancient Indian medicine system (Āyurveda). Someśvara has, in the Mānasollāsa, stated “रैवात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्वात्स्...
system of medicine based on empirical-rational principles and practices, issuing from an active encounter with the world. It should not be assumed that empiricism or the process of observing and defining is evident only in the classical medical tradition. Vedic medicine relied on close observation of phenomena in order to develop its unique form of mythical and religious classifications and associations. The difference between these two epistemologies lies in their respective premises. The foundation of Vedic medicine was a belief in a multitude of benevolent and malevolent deities or spirits that populated the cosmos and caused good and bad effects in the human realm. Controlling and taming these entities were the ultimate goals of this healing system. In Āyurveda, a basic understanding of the interrelationship between human-beings and their environment prefaced every observation. Ideally human-beings and nature should be in perfect harmony. Disease occurred when the equilibrium between these two was disrupted. Restoration of a fundamental balance was the goal of this medical system.

The social event occurring in Vedic antiquity was probably a key factor in initiating change. A forthright denigration of medicine by the priestly order and the Brahmanic hierarchy resulted in the exclusion of healers from the orthodox ritual cults because of the defilement they incurred from contact with impure people with whom they found fellowship. This type of "excommunication" transformed the medical priests into members of a fringe-group. Other important marginalized people included the heterodox wandering ascetics who renounced the trappings of orthodox ideologies and practices and abandoned society for the wilderness in search of higher spiritual goals. Unencumbered by the strictures of Brahmanical orthodoxy, these ascetics, who included among others the Buddhists, acquired a radically different view of the world and mankind's place in it, fostered by their intense meditative discipline. In fact, early Buddhist literature reveals that their understanding of the relationship between human-beings and nature was not very different
from that which contributed to Ayurvedic medical thought. An intellectual sympathy seemingly was shared by both the wandering ascetics on a spiritual quest and the roving physicians whose professional curiosity led them to encounters with different sorts of people from whom they could obtain useful medical knowledge.

Finding rapport with the communities of heterodox ascetics and renunciants who were not inclined to censure their philosophies, practices and associations, the healers, like the knowledge-seeking ascetics, wandered the countryside performing cures and acquiring ever new remedies, treatments and medical information. They eventually became practically undistinguishable from the mendicants with whom they were in close contact. A vast storehouse of medical knowledge soon developed among these wandering physicians who, like the ascetics, were unhindered by Brahmanic strictures and taboos. With the help of ideas from the intellectual ascetics, the physicians began to conceive a radically new epistemology with which to codify and systematize this body of efficacious medical data.

Fitting into the Buddha’s key teaching of the middle way between world indulgence and self-denial, medicine became part of Buddhism by providing the means to maintain a healthy bodily state characterized by an equilibrium — both within the body and between the body and its surroundings. Portions of the repository of medical lore were codified in the early monastic rules, thereby giving rise to a Buddhist monastic medical tradition. The early Buddhist community of monks or saṅgha was where wandering intellectuals would gather and exchange information which often included medical knowledge. As the saṅgha established more permanent dwellings and fixed abodes for ascetics, the intellectual life turned more scholarly, and a formal systematization of information and instruction ensued. The symbiotic relationship between Buddhism and medicine in the large conglomerate monasteries (vihāras)
expedited the acceptance of Buddhism in other parts of Asia. Probably during the early centuries of the common era, Brähmanism assimilated the storehouse of medical knowledge into its socio-religious traditions.

The most fascinating study in Āyurveda is its history from the earliest times in India.

The earliest teacher of Āyurveda is Bharadwaja and his period is mentioned as Pre-Vedic or Vedic. He is mentioned as having performed severe penance over a long period at the end of which Bhāradwaja went to Indra. At the time of creation, Brahma (creator) is reported to have handed down Āyurveda to Prajāpati who in turn taught it to Āśvinikumārs. Indra is supposed to have received the same from Āśvinikumārs.

After Kṛtayuga, the sages purified by penance are said to have assembled in the Himalayas. There is a long list of Ṛṣis assembled there to discuss about the welfare of human beings. The most prominent among them were Angiras, Jamadagni, Vasiṣṭha, Kaśyapa, Bhṛgu, Atreya, Bhāradwaja, Vāmadeva and Mārkandeya. Prakṛti-equilibrium was considered the basis of Dharma, Artha, Kāma and Mokṣa. Vikṛti, disequilibrium, was regarded as disorder or disease. Eradication of diseases formed the pivotal point of discussion. They all meditated on Lord Indra who enlightened them about the remedies for the diseases.

The sages decided to send Bhāradwaja as their representative to Indra to know more about the cure for diseases. Indra is reported to have revealed in brief the essence of Āyurveda to him. Bhāradwaja learnt from him the three sutras — हेतु - Reason for diseases, लिङ्ग - Characteristics of diseases and ज्ञान treatment of diseases.1

The knowledge received from Indra enabled Bhāradwaja to enjoy longevity in life. He communicated to the rest of the sages this science of life — आयुवेदः. They came to know the significance of action and reaction of medicines in general as well as special treatment of diseases. The sages enlightened Punarvasu about this extraordinary science of life. He in course of time taught his students, prominent among whom were Agniveśa, Bhela, Jāthukarma, Parāśara, Hāritha and Kśārapāṇi.

The Tantra-Saṃhitā was the earliest work brought out by Agniveśa. Bhela followed him by bringing out his Bhela-Tantra. Bhela conveyed the same to Punarvasu. The sages were all happy over the achievement of Agniveśa and Bhela. They congratulated them in general and Agniveśa in particular.

Caraka incorporated the salient features of Agniveśa’s Tantra-Saṃhitā in his Caraka Saṃhitā which is regarded even today as the perennial source of Āyurvedic medicine. This is supposed to have eight divisions entitled Śloka, Nidāna, Vimana, Sarīra, Indriya, Chikitsā, Kalpa and Siddhi. Only seventeen chapters of Cikitsā Sthāna are available. Caraka could not complete the entire work. Dradhabala, son of Kāpilabhali, is credited to have completed this famous work.

Atreya, a disciple of Bhāradwaja, is reported to be another reputed teacher of Āyurveda in 8th century B.C.

Patañjali, the author of Mahābhāṣya, is credited with having propounded Yoga in the 2nd century B.C. which can effectively remove the dirt of the mind.

It may not be out of context if the anecdote about Caraka is recollected here. It seems Ādiśeṣa came to the earth and saw people were suffering from all types of diseases and were becoming victims of diseases for want of proper treatment. He took pity on such unfortunate human
beings. He therefore decided to be born as the son of a sage. He studied the Vedās and Vedāṅgās. No one knew about his presence on the earth where he came as a spy and freely moved about. He became famous as Carakāchāryya on the earth and as Vedāchāryya in the heavens.²

Ādiśeṣa is also credited with having given a separate status to Āyurveda although it formed a part of Atharva Veda.³

Suśruta, the earliest surgeon in Āyurveda system, is the renowned author of Suśruta Samhitā in the 1st century B.C.

An interesting episode about the origin of Suśruta Samhitā may not be out of place here. It seems king Devodasa (Dhanvantari in previous birth) was staying at Kāśī in the Vānaprastha stage. Sages approached him and prayed, as follows:

‘Oh ! my lord ! This body is afflicted with Vāta, Pitta and Kapha, the three evils. Rajas and tamaś also cause mental suffering. Āyurveda is an effective cure for both physical and mental disorder.’

‘We pray that you throw light on this aspect for the benefit of mankind, both here and hereafter.’

God Dhanvantari addressed them in this manner : ‘Let all of you study Āyurveda. It is called Aṣṭāṅga. Please let me know which Aṅga should be explained to you.’

The sages replied - ‘We want to learn Āyurveda with emphasis on Śalya’.

The king Devodāsa then explained the first division of Śalya Tantra with reference to the four Pramāṇas - Pratyakṣa, Āgama, Anumāṇa and Upamāṇa.⁴

². M.N. Joshi, op.cit., p.27
³. Ibid., p.27
⁴. Ibid., pp. 32-33.
Ayurveda is having eight divisions such as *Kāya, Bala, Graha, Urdhwaṅga, Šalya, Damshtra, Tāra* and *Vrusha*. It is very difficult to study each *Tantra* or Division separately. In order to make it easy for purposes of study, these *Tantras* have been incorporated in eight folds or *‘Aṣṭāṅga Saṅgraha’*. *Aṣṭāṅga Hṛdaya* is another masterly work of the age and Vāgbhaṭa is the author who lived in 6th Century A.D. He is also mentioned as the compiler of *Aṣṭāṅga Saṅgraha*.

It has been repeatedly mentioned in *Āyurveda* that the treatment referred to by this ‘science of life’ is for the benefit of mankind both here and hereafter. Therefore, it is natural to mention Brahmān or creator as the first person who knew *Aṣṭāṅga Hṛdaya*. The creator is reported to have taught the same to Prajāpati. It was then made known to Aśvinikumārs and Indra from whom the sage Atri learnt it. Atri handed it over to Agniveśa.\(^6\)

*Aṣṭāṅga Hṛdaya Tantras* are not in a narrative style. They are in the form of discussion between the sages and the disciples. Agniveśa, the disciple, raises some doubts out of curiosity and the sage Atreyā removes his doubts by relevant replies. During the discussion it is made known that reasons for diseases are four-fold, i.e., wind, water, place and time - बायु, जल, देश and काल. Cycle of time or seasonal variation and the rural or urban set up may render both medicine and food lose their taste and effect. Diseases spread on this count. In order to eradicate diseases, food and medicinal plants have to be preserved after thorough scrutiny and proper test.

We must look at Indian medicine rather in terms of distinct phases. Although not well-defined, the first may be called pre-historic or pre-Vedic

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medicine, dating from about 2700 B.C. to 1500 B.C. The second is that of Vedic medicine which looks back to a time around the second millennium B.C. It is the earliest period in which a clearly discernible medical lore can be ascertained. Vedic medicine is the focus of the present thesis. The next distinguishable stage is characterized by the presence of separate Sanskrit treatises on Indian medical science or Āyurveda, 'the science of longevity.' The earliest of these medical books are the samhitās of Bhela, Caraka and Suśruta, which date from about the beginning of the Christian era. The subject matter of these works is quite unlike that of Vedic medicine. Most diseases are defined in terms of a humoral theory. According to Indian physicians there are three 'humors' (doṣas): wind (vāyu), bile (pitta) and phlegm (kapha, śleṣma), which, on analogy with the humors of the Hippocratic and Galenic systems, were the vitiating forces in the body. (Hippocrates and Galen were great physicians). In a normal state, the humors are in a state of equilibrium in the body. When something called a nidāna, 'primary cause,' which could be of climatic, organic, or less commonly, demonic origin, acted upon the humors, an imbalance occurred, bringing about the manifestation of disease. The principal aim of the physician was to recognize which humor or humors were out of balance and to re-establish the equilibrium through treatments, which usually included drugs with opposite qualities, diet, and daily regimen, although surgery was also sometimes recommended.

This thumbnail sketch of early Āyurvedic medicine serves to illustrate that at its basis lies a theoretical and a rational understanding of disease and cure. The origin of this new approach to medicine is a point of controversy. It is quite certain that a little of it can be traced to Vedic medicine. Although the theoretical framework of Āyurveda may not be Vedic, the basis of its materia medica could indeed have evolved from Vedic medicine or even from pre-historic, pre-Vedic medicine.
A clear and detailed picture of medicine prior to the Vedic phase is difficult to ascertain. Evidence of this pre-historic period in South Asia derives primarily from archaeological remains excavated from the sites of the Harappan culture, sometimes referred to as the Indus Valley Civilization. Its dates are from about 2700 B.C. to 1500 B.C., making it roughly contemporaneous with the Old, Middle, and New Kingdoms of Egypt and the period of Sumer and Akkad in Mesopotamia. The mosaic of Harappan settlements illustrates a highly developed, urbanized culture, established principally along the Indus River (in Sind, now in Pakistan), stretching from the Arabian Sea to as far north as the Panjab (sites have also been found further south in the present-day-Gujarat). The area covered was nearly twice as large as the Egyptian civilization and almost four times as great as that of Sumer and Akkad. This vast civilization had two main centers or capitals: one in the south, Mohenjo-Daro (near modern Sukkur) and one in the north, Harappa (near Lahore).

The architecture of the Harappan sites was unique for its time. Streets were planned on a north-south and east-west grid. Houses were usually two-storeyed and made of burnt brick. Many homes contained a bathroom, built near the wall facing the street so that water could be drained through a pipe into a covered sewer running under the street. The bathrooms were either square or rectangular, with a sloping floor with an opening in the corner through which the water could drain. Several of the houses even had latrines with a drainage system similar to that of the bathrooms. These architectural designs point to a conscious concern for public health and sanitation and suggest an implicit belief in ritual purity and pollution, which becomes so prevalent.
in later Indian thought. The Great Bath found in the citadel area of Mohenjo-Daro perhaps epitomizes the Harappan penchant for purification through bathing. The man-made pool measured 108 by 180 feet with a centre basin 23 feet by 39 feet and a sloping floor which reached a depth of 8 feet. This giant structure was filled with water from a large well.\textsuperscript{9} The central purifying agent was water which, as we shall see, was an important medicine of the Vedic people. It is quite possible, therefore, that hydrotherapy was a therapeutic measure used by the Harappans to restore and to preserve health, which brings to mind the purpose of the Roman baths of a later period.

Unlike the ancient Egyptian and Mesopotamian medical traditions which have specific treatises outlining their medical systems, the earliest Indian textual evidence of medicine is randomly incorporated in the corpora of its principal religious literature, primarily in the Atharvaveda and to a much lesser extent in the \textit{Rgveda}.

The medical material contained in these two ancient texts is not wholly free from problems. Because we have well edited texts with which to work, we stand on fairly firm ground when labouring with these bodies of literature, which have been preserved by an extraordinarily accurate oral tradition from very early times until comparatively recently when they were recorded in written form. Doubts concerning the meaning of specific words and phrases are present; but these uncertainties are not unexpected in such ancient documents. Of all the religious literature of ancient India, these Vedic texts have received the most extensive philological investigation. With this background of scholarship at our disposal, we have a solid basis upon which to test new hypotheses and to construct new theories. Although we may not be able to eliminate all

\textsuperscript{9} \textit{Ibid.} p.144.
the doubts which the literature still contains, we can, nevertheless, contribute significantly to the elucidation of India's antique medical lore.

The actual medical doctrines we shall study are found mostly in the Atharvaveda, a religious text which contains much material of secular nature. The Rgveda is almost entirely religious in character. As such it provides for the most part mythological stories illustrating the healings performed by various gods of the Vedic pantheon. These episodes along with other scattered medical references will be utilized in order to explain more fully the medical philosophy and practice of the Vedic people; but they cannot in themselves be viewed as representing a separate medical tradition. It is only when the two texts are examined together that the fundamental doctrines of the Vedic medical tradition can be fully appreciated.

A work of this type should include a discussion of anatomy. We refrain, however, from an examination of individual anatomical terms, as this has already been undertaken by A.F.R. Hoernle, F.S. Hammett and especially J. Filliozat, to whose works the reader should refer for the best discussion of the subject. For all their painstaking work on anatomy, Filliozat and the others have neglected to explain adequately the basis of ancient Indian anatomical knowledge.

10. We see in particular the healing feats of the twin horsemen, Aśvins at Rg-Veda 1.112.8, 15; 116.10, 15, 16; 117.9, 13, 17-18, 24; 118.6-8; 5.74.5; 75.5; 7.68.6; 71.5; 10.39.3, 4, 8; and 10.40.5; the connection of Rudra with healing at RgVeda 1.43.4; 114.5; 2.33.2, 4, 7, 12; 5.42.11; 7.35.6; 46.3; and 8.29.5; of the Maruts at RgVeda 2.33.13; and 8.20.23-26; of Soma and Rudra at RgVeda 6.74.3; of Indra at RgVeda 2.21.6; 4.19.9; 8.1.12 and especially 8.91(80), where Indra cures Apāla of the loss of hair and of ugly skin.

Anatomical knowledge in ancient India was derived principally from the sacrifice of the horse and of man; chance observations of improperly buried bodies and examinations of the corporal members made by medical men during treatment contributed comparatively little to the body of anatomical knowledge. As a result of the precise ritual procedures of the sacrifice, which called for the recitation of the name of each part of the body as it was cut (for the horse this is documented at *Ṛgveda* : चतुर्विशेष वाजिनो देवबन्धुव्यज्ञार्थं स्वधितं समंतं | अस्मिद्रा गाटा वजुनां कर्णोत परःपरःतुन्पुष्पितश्चस्यम् || 1.162.18) for man no early references are found, but later tradition specifies that the action should follow that of the immolation of the horse), fairly accurate lists of anatomical parts of the horse and of man have been preserved and transmitted, primarily through the exegetical Brāhmaṇa-texts. Filliozat’s efforts at defining many of these parts have greatly advanced our understanding of the individual terms. Difficulties, however, still remain in the proper identification of many of the internal parts, which tend to be described by the native authorities in terms of a locality or as attached to a known organ. These enumerations provided the principal sources of anatomical knowledge until the time of the classical treatises (*samhitās*) of Āyurvedic medicine, when the visual inspection of the body by a type of dissection was introduced, perhaps from the West, into the traditional system of medical education.

Vedic medicine may be characterized essentially as a magico-religious system. Such a hackneyed definition implies more than it expresses. Space does not permit a complete discussion of magico-religious medicine and it is apparently opposite to empirical medicine. Causes of diseases are not attributed to physiological functions, but rather to external beings or forces of a demonic nature who enter the body of their victim and produce sickness. The removal of such malevolent entities usually involved an elaborate ritual, often drawing on aspects of the dominant local religion and nearly always necessitating
spiritually potent and efficacious words, actions and devices. To some extent, the empirical medicine was also evident during Vedic time. It involved both observation and experience in order to determine the cause of disease and to effect an appropriate treatment.

The Vedic Indian's attitude toward disease, therefore, was dominated by the belief that evil spirits, demons and other malevolent forces invaded the body and caused their victims to exhibit a state of disease. These demons were often personified and deified, giving rise to an entire pantheon of gods of disease. The impetus for the attack may have come from a breach of a certain taboo, from a sin committed against the gods or from witchcraft and sorcery. Injuries such as broken bones or wounds, however, were considered to be accidentally caused or the result of warfare. Other external diseases and afflictions were noticed to have been caused by noxious insects and vermin, often thought to be demonic in character.

The idea of health in a positive sense is wanting in Vedic medicine. Any notion of the concept is to be found in the negative or opposite of what was understood to be disease, or more specifically in the absence of particular disease-causing demons, of injuries and damages and of toxins.

As among most cultures of the world, an individual was considered to be healthy if his life-time was long, i.e., if he could repeatedly witness the rising sun, and if he showed complete recovery from illness. There are also indications that a wholesome body was associated with the intake of nutritious food.

The healing ritual always required the recitation of religious incantations or charms. An analysis of these verses illustrates certain apotropaic devices which included the use of sympathetic magic, of the rhetorical question, of onomatopoeic sounds, of the identifying name, of the esoteric word or phrase which, when properly uttered, focused the
demon's attention on the healer, leading to its loss of grip and power. Disease-demons were often transferred from the patient to enemies or less desirable people, dispelled into the ground or carried away by birds to places where they could no longer be a menace to the community. Amulets or talismans (*mani*, literally 'jewel'), usually of vegetal origin, were ritually bound to drive out demons and to act as prophylactic measures in preventing further attacks. Fragrant plant substances were burnt to help expel the patient’s demon, to protect him, and to make his environment pure and generally favourable for healing. Early morning (dawn), noon, and dusk (twilight) seem to have been the most auspicious times of the day to carry out healing rituals. Some rites were performed when certain stars were in a particular part of the heavens, suggesting that astrology may have played an important role in Vedic medicine.

In addition to the evidence of a systematic, classificatory way of thinking, the Vedic healers showed that they were familiar with some empirical procedures of healing. These therapeutic actions, however, are found in the context of the magico-religious rite, implying that their efficacy was inextricably connected with the magical or spiritual operation. The treatments worked because the proper words were recited, the correct actions performed and the right devices used.

Quite naturally these procedures are encountered most frequently in the treatment of external diseases and afflictions. For example, a form of surgery, utilizing a reed as a catheter, was performed to cure urine-retention; lancing and salt were used in the treatment of certain pustules; cauterization with caustic medicines and perhaps with fire was practised; sand and perhaps also reeds were applied to stop the flow of blood issuing from a wound and perhaps from the uterus; a resin was applied to wounds to prevent them from bleeding and to aid in the healing process; ointments and dyes were applied to the skin; a special
plant was used which evidently promoted the growth of hair; and certain plants may also have been used in salves or poultices. Perhaps the most important empirical method of healing was the use of water as a type of hydrotherapy. It was employed for numerous ailments, both internal and external, suggesting that it was looked on as a significant therapeutic agent. The medicinal uses of water may well have evolved from the medical tradition of the Harappans.

Before examining and presenting in translations the most significant hymns which constitute the principal doctrinal remains of the Vedic phase of Indian medicine, we should have some idea of the Vedic medical lore in later centuries. In the earliest Āyurvedic treatises of Bhela, Caraka and Suśruta a reverence for Vedic medicine, as exemplified in the Atharvaveda, is advocated. In actual practice, however, a few of these early techniques seem to have survived. As an example, magico-religious utterances or mantras, which form the cornerstone of Vedic medicine, are found to have been used principally in five ways: 1. the treatment of swellings or tumors and wounds or sores (śotha, vrana); 2. the treatment of poison (viṣa); 3. the treatment of mental disorders (unmatta, apasmāra); 4. the treatment of fever (jvara); and 5. the collection and preparation of certain medicines. Parallels in Vedic medicine occur for each category. Often the similarities between the archaic and the Āyurvedic uses of mantras are remarkable. Vestiges of Vedic medicine are clearly represented by these five groups.

Agnivesa raised the point whether human beings are not suffering from the same diseases. What is the use of storing herbal medicines and different types of food to eradicate diseases? Atreya appreciated the point, but said that different diseases affect people. The reasons for such diseases are wind, water, place and time. Seasonal variation causes wind to blow hot or cold. Wind also carries dust and smoke. They are injurious to health. Contaminated water causes health hazards. Not only human
beings but also animals, fish and birds avoid using it. Breeding centres for reptiles, flies, mosquitoes etc. are not safe places for habitation and storage of food grains. Seasonal changes such as summer, rains, winter etc. also increase misery of living beings. All these contribute for the spread of disease. An environment free from all these extraneous causes is considered safe for healthy living. Timely check-up and administering proper medicine will help in curing diseases.

Agniveśa is curious to know the reasons for the spread of disorder in elements which cause havoc and destruction of living beings. Atreya reminds him of the Vedic tradition that any deviation from the path of Dharma by both the ruler and the ruled causes large-scale calamities. He elaborates on the meaning of अघर्म which is regarded as the main cause for spread of diseases and destruction. He reminds of Satyayuga when virtue guided the practice of Dharma and the result was that heavens had descended on this earth. People were free from fear, passion, jealousy, sorrow, disease, fatigue, stress, laziness, etc. All were happy and contented. Early part of Kṛtayuga was also very conducive for health, prosperity and progress. But the later part of Kṛtayuga witnessed a rapid decline in values and people became pleasure-loving. They gave up hard work. They became greedy and selfish. In the Tretāyuga greed encouraged animosity resulting in group clashes due to frailties of the mind. The nature of the five elements also changed causing widespread havoc for the living beings. People lost their will power and became victims of Vāta, Pitta and Kapha. In Kaliyuga now, the disappearance of Dharma has resulted in untold miseries and sufferings for living beings in the universe.\(^\text{12}\)

The concept of the four yugas and the steady decline of values causing all sorts of maladies may not hold good in this scientific and

technological age. Just as diseases are not common to all and they vary from person to person and place to place in accordance with seasonal variations, similarly, the span of life is subject to be either short or long due to lack of discipline or a disciplined way of life. Lack of discipline causes अकालमृत्यु - untimely death and a disciplined way of life ends in कालमृत्यु. Atreya explains this secret to Agnivesa in a rational and homely style:

‘O Aniveśa! Listen to this. The axle of a chariot is well-tested and is of a fine quality. As time passes, the axle becomes weak and one day the chariot will break into pieces. In the same way, the body of a person with the passage of time becomes weak and one day his time comes. This is called कालमृत्यु.’

The life span is broadly divided into three divisions - childhood, youth and old age. Suśruta has divided life-span as बाल, मध्य and वृद्ध - Infancy and childhood, youth and the old age. बाल is divided into three divisions: क्रीर्य (drinking milk only), क्रीरावर्धन (drinking milk and eating food) and the third is अङ्ग्राद - only eating food. क्रीर्य is one year from birth, क्रीरावर्धन is two years from birth and the rest is अङ्ग्राद. The duration of मध्य or middle age is from sixteen to seventy years. Beyond seventy it is old age when the system starts decaying. Age of a patient is a great factor to be kept in mind by the physician before prescribing any medicine and determining its dosage.

Medicines are also regarded as belonging to three types - one is based on divine elements देवव्यपाध्य; the second is based on युक्तिव्यपाध्य - elements and intellect and the third is based on सत्त्वव्य - self-restraint. Medicine pertaining to divine elements is medicine by uttering mantra - मंत्र. Combination of food and medicine is called युक्तिव्यपाध्य. Controlling of the mind is known as सत्त्वव्य.

Atreya makes a revelation to Agnivesa when he mentions the category of persons who are permanent patients. He says Brāmanas, Government officers, courtesans and Vaiśyas always suffer from diseases. A Brāhmaṇa always is engaged in Vedapāṭha and does not take his food in proper time. He neglects his health and suffers from diseases. A government officer always engaged in his routine does not care for his health. Courtesans have to fulfil the demands of the rulers. Vaiśya, busy in his trade, gets stuck up to one place and has no time for maintaining his health.\textsuperscript{15}

This detailed description throws light on the minutest aspects of the subjects covered in the ancient texts as the science of life - آयوروک्षेत्र - in our country from the earliest times. Even today ancient treatises on Āyurveda like Aṣṭāṅga Hṛdaya and Aṣṭāṅga Saṅgraha are considered as source material in medicine by posterity for Vāgbhata's rich contribution to this science of life.

Madhavaka is considered as the clinical diagnostician in the 9th century A.D. Vrindā's contribution to Āyurvedic medicine is also worth noting. He belonged to the 10th century.

Salihotra of the 8th century B.C. is held in great respect as the father of Ancient Indian veterinary science. Treatment of human beings, of course, formed an important aspect of Indian medicine. But it is interesting to note that treatment of animals, birds, plants and trees was not neglected here.

\textit{Vṛkṣhāyurveda} - वृक्षायुर्वेद - by Surapala deals with the treatment of plant diseases.

\textit{Mātaṅgalila} of Nārāyaṇa treats the subject of the diseases of elephants.

\textsuperscript{15} Ibid., pp 73-74.
Asvāyurveda of Gana and Aśvachikitsā by Jayadūta and Nakula are related to the treatment of horses:

Asvāyurveda was an important branch of study and copious literature is found on this subject:

1. अश्ववेधक - जयदत
2. योगमंजरि - वर्धमान
3. अश्ववेधक - दीपकर
4. अश्ववेधक - अमिन्युराण
5. सुविन्यक्ततं - भोज
6. अश्वायुवेंद - वाम्भट

Someśvara is also credited with having written a book on treatment of Horse and Elephant diseases.16

हस्यायुवेंद - गजायुवेंद by पालकायमुनि is another interesting book on diseases and treatment of elephants.

In ancient India, Gold, Silver, Copper and Iron were frequently used in medicines. Iron was called Kṛṣṇāyasa or the black metal; copper was called Lohitāyasa or the red-metal. Harita (Yellow) was the name given to gold and Rajata (white) was the name by which silver was known. Yajurveda makes references to these metals as they were used for the fulfilment of sacrifices.17 According to D. D. Mehta, “A regular science of mercury was developed as a branch of chemistry in ancient India. Iron and mercury are mentioned as aphrodisiacs and tonics by Varāhamihira (587 A. D.). There were several preparations of iron, copper, mercury, and

16. शिवानामकिन्म, पालकायमुनि - एक सामूहिक अभ्ययन (Chowkhamba Vidyabhavan, Varanasi, 1996) पु. 196-203.
17. हिरण्य च मे सर्वमं सांस चमे जुज्जमे स्थानं च मे लोहं च मे। - यथूवेन - 14.13.
other metals which were utilized in medicine. Rasa meant mercury in
the oldest Ayurvedic literature. Vātsyāyana’s Kāmasūtra refers to sixty-
four kalās, or arts, that were practised by Indians of his time. Among
them are mentioned the testing of gold and gems, the differentiating of
gems according to their weight, hardness, lustre, transparency and colour,
fusibility, especially when heated in combination with the alkalis, etc. As we
can see from the above, subjects concerning Āyurveda have been found
scattered in various literary works. King Somesvara has rendered great
service to us by explaining these various subjects in a single monumental
encyclopaedic work Mānasollāsa.

Reason of Diseases

Man does not live in an absolutely germ-free atmosphere. The only
thing that can be done safely is to keep the tissues of the body
unreceptive towards these germs. Once the human body is affected, the
tissues should be so conditioned by drugs and diet and other regimens
that these germs or bacteria, by whatsoever names they may be called,
will find the atmosphere hostile towards their survival, multiplication
and growth.

In the Mānasollāsa, Someśvara tells that the change of normal
condition is due to food and the bad actions of a man. He explains how
doṣas affect the human body. Sāma (undigested food) is the creator of the

19. गोत्रम् पादम् ज्वरम् आलोकम् विषोपकच्चेदाम् ...
   ... रूपसरसरीशा धातुकादिः ... || काल्याणोऽकामश्च 1.3.16.
20. वेगनां धारणादेव नेमः क्षुद्राद्वादि ||
    अर्थेवायामौ हृति: वच्चा कार्य ज्योऽवयवः || 1.19.212.
    कारणोऽवतादेव विवधुलस्वपः: श्रावनादि ||
    आत्माभच भूति वत्तिः कुस्तिः दूष्येदर्द्ववः || 1.19.200.
    विद्वैन्द्र्यात्मानोऽसाधुनां निन्दाय विद्वन्ति: ||
    प्रासननि: कर्मभागः कृषि: कुष्टि स्वतः च जापते || 2.19.272.
doṣas, and then it disturbs the *Jātharāgni*. This *Jātharāgni* spreads in the human body. This is called fever or *Juara*. This *Juara* is the king of all the diseases. Further, it results into many varieties of diseases. In respect of each disease, whether named or unnamed, Somesvara says that the following points need careful attention.

**Nidāna or causative factors:**

These causative factors are further divided into the following four categories: *Sannikṛśta* or those which produce disease quite early, *Viprakṛśta* or those having delayed effects in producing a disease, *Vyabhicāri* or those that are not strong enough to cause a disease and *Prādhānika* or those having instantaneous effects in producing the disease, viz., strong poisons. The causative factors can further be divided into two groups, namely, exogenous and endogenous. Various types of dust, regimens and the effects of seasons are the exogenous factors. Vitiation of *Doṣas* (*Vāta*, *Pitta* and *Kapha*) or *Prakṛtis* and *Dhātus* are the endogenous factors to cause a disease.

**Pūrvarūpa or Premonitory symptoms:**

These premonitory symptoms are of two types, viz. general and specific. Some of the premonitory symptoms only indicate the nature of the disease going to be manifested in general.

→ Cf. चक्रमहिता सूत्रमान, 7. 3-5.

21. सामो दोषशििरद्ग हत्वा पावक जदानितम् ||

निरूध्य च ससन्त्यामुदरानिन बहिः किरेन ् ||

एवं विन्यान्तो बहिः कामभ्रात्राय तापस्य ् ||

ज्वर हसुन्तस्य ततोः सर्वव्याधिगिरिष्ठः स। || 1.19.145-146.
Rūpa or manifested signs and symptoms:

When the disease is fully manifested, certain signs and symptoms appear. In the Āyurvedic texts, signs and symptoms of each of these diseases are described in detail. Mānasollāsa explains वैद्यशास्त्रानुयायिण कार्यसिद्धतत्त्वतिनिर्मित्यायम् । 1-19-143. These are indicative of the stage of the disease and of the Doṣas, Dhātus, Agnis, as well as Śrotas involved in the manifestation of the disease. They also indicate the prognosis of the disease. On the basis of these signs and symptoms, therapies, diet and regimens are prescribed for the patient.

Upāśya or exploratory therapy:

Sometimes, the causative factor, premonitory symptoms and actual symptoms of the disease, do not well indicate the nature of the disease. A physician in such conditions, resorts to some exploratory therapy to ascertain correctly the nature of the disease. These are the common characteristics of all the Āyurvedic works. But Mānasollāsa gives some more information for a careful examination of the disease. Someśvara gives importance to the time and place, and also Sātmā Prakṛti. It means the strength of the patient. Further, it tells that a physician should know the Svarūpa or features of a disease, and Laksana i.e., symptoms or distinctive characteristics of the disease and so on.

Jvara or Fever:

Jvara or fever occupies the first place among physical ailments. So Someśvara’s Mānasollāsa describes it first and tells that Jvara or fever is the king of all diseases. Mādhavanidānam [मधवनिदानम् of Sri Madhavacar, Chaukambha Sanskrit Samsthan, Varanasi, 1981] says that – Rudra was creator of Jvara and it is in eight parts.
Carakasamhita says\(^{22}\) that there are eight types of Jvara. In Mānasollāsa it has no definite number. Somesvara divides on the basis of doṣas, viz., Vātapatīta Jvara,\(^{23}\) Vāta-juvara,\(^{24}\) and so on (1.19.160-196). Carakasamhita further tells the causative factors of the fever.\(^{25}\) The factors responsible for the causation of fever in human beings are Vāta, Pitta, Kapha, Vātapatīta, Vātakapha, Pittakapha, Vātapittakapha. There is the other extrinsic factor also. Only the immediate causes of fever are mentioned here. These causes are concerned with the fever of human beings only. Those of the other animals like horses, elephants, cows and birds may be different.

Somesvara’s Mānasollāsa gives the names of animals’ fever, birds’ fever, the fever of plants and so on.\(^{26}\) Fever caused by all these categories has one thing in common, that is, pain precedes the occurrence of fever in all such cases. Hence, they are treated as of one type in the eight-fold classification of Jvara. Hence, Somesvara says, “there is only one type of Jvara, but it has many names.”

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\(^{22}\) संज्ञातवच्च अही ज्वराः, पुत्तमुम्मवाः, तत्र बुधापेयवार्दिः। चक्रसंहिता - निदानसम्भावन 1.2.

\(^{23}\) विल्वं बलं पुरवस्याः नागरं धन्यकोपेलग्गः।

\(^{24}\) शुक्ली-मुसलमुम्मवायाः। क्षणों वातवर्षकः। 1.19.185.

\(^{25}\) अथ शक्तस्वाभावः कारणभोजे ज्वरं संज्ञातो मन्नतवायाः, तदत्तात्, पितात्, कपालं, चतुरिकारामाः, चतुर्कम्भां, नितिकराः, नितिककराः, आगोत्रयमावाः, कारणाः। चक्रसंहिता-निदान स्थान 1.17.

\(^{26}\) ज्वरे नेतृ विशेषतः पालकं समन्तनुसः।

अभितपुनवर्गः काकं यस्मेव सर्वं।

उद्देश्यलक्षें, प्रोक्ते गोपु प्रोक्तस्यलक्षें।

अविको नदीयुक्ते हारिते महिष्यलक्षे।

अग्निको स्त्रेलस्यस्यभावों मुख्यलक्षे।

अपवधानम्: शाकु-नेतृ पर्यावरणमुदवारिष्टः।

पुरवेष्टिन्ने: नृज्ञर्मोहिन मुख्यलक्षे।

अपवधानम्: शाकु-नेतृ पर्यावरणमुदवारिष्टः।

शाकु-नेतृ प्रोक्तो भृणामुख्यवाथः। || 2.6.639-643.
Treatment of fever:

During the stage of *Pūrvarūpa* (premonitory symptoms) or in the primary stage of *Juara*, intake of light food or fasting is useful, because *amaśaya* (stomach including small intestine) is the site of origin of this disease. There is no contradiction in these statements because the intake of light diet is only a form of *Lāṅghana* and produces lightness in the body. Further, in *Vātika* type of *Juara*, complete fasting is prohibited as it aggravates *Vāta* taking part in the pathogenesis of the disease. In such a condition, intake of light diet is prescribed. Normally, even light diet should aggravate *Vāta*, but it does not do so in a patient suffering from *Juara* because the site of origin of disease in *āmaśaya* and all aggravated *doṣas* residing here including *Vāta* are corrected by the intake of light diet.

Mānasollāsa discusses the preparation of medicines or *Kāśāyas* and its utility for fever and other diseases. In all the types of chronic fever and other diseases, intake of ghee is beneficial because it acts both against the diseases as well as the *doṣas* involved. “As people spray water over a house set on fire, so also ghee should be used with a view to alleviate chronic fever and other diseases. *Vāta* is alleviated due to latter’s unctuousness, *Pitta* due to coldness and even *Kapha* due to suitable method of preparation.

27. एकवभासं तथा पेयद्वारा ता कोणशालिण | दोषकोपनुसारण लघुन्त विविध स्थम | I.19.153.
28. सक्तृप्तकरमीयतः पिबेश्वर स्वदु पालनम | पूर्तं वा क्रेष्टं पीतं मद्यायर्हं यम | I.19.225.
   Cf. महाभाषाय शालिपर्य 309.18.
   विकसय यथा सम्यं चूर्णं भयत भेकजम | तथा नित्त्वदेशस्य मेत्यभमं सुकुबक | I.30.
29. यथा यम्बलिङ्गम पेवर्तम परिपिष्टवति वारिण | न्तः शालिमयोगाय तथा जीर्णद्वरे चूर्णम | चक्रसिद्ध निदानस्थान 1.38.
In the Mānasollāsa, Someśvara further discusses all types of Jvara, and many varieties of medicines. Raktapitta\(^{30}\) (a disease characterised by bleeding from various parts of the body) is caused by the heat of Jvara. This Raktapitta is not the combination of rakta (blood) and pitta. It is only a pathological state of pitta. This disease manifests itself in two ways, either through upper tracks or through the lower tracks. In a patient having the dominance of Kapha in his body, the disease manifests itself in blood coming out through the upper tracks, viz., ear, nose, eyes and mouth. In a patient whose body is dominated by Vāta, the disease manifests itself in blood coming out through the lower tracks, viz., the urethra and anus. In a patient whose body is dominated by both Kapha and Vāta, the disease manifests itself through both the tracks mentioned above. The first type of Rakta-pitta, where the upper tracks are afflicted, is curable because of its amenability to purgation therapy and also because varieties of drugs are available for the treatment of this condition. The second type of Raktapitta is called by Someśvara as Yāpya. Yāpya type of Rakta-pitta, where the lower tracks are afflicted, is palliable because of its amenability to emetic therapy and also because of the limited varieties of drugs available for its treatment. The third type where both the upper and lower tracks are afflicted is incurable because it is neither amenable to purgation nor to emetic therapy and no medicine is suitable for the treatment of this condition. Hence Someśvara's advice is, “the enlightened physician should not take incurable patient in hand. The palliable patient should be maintained with appropriate therapy. The curable one should be treated carefully

\(^{30}\) ततो प्राणस्य कर्षणध्यः पत्तुः-महेन्द्रायिति।
प्रव्हति ततं खराइं रक्तपिता भिन्नवर्गः।
एकीत्यं नवे चोर्धर्ष महेन्द्रव्यम्।
रक्तपितं सुखं साक्ष्यश्वासं बायामुच्यते।
अधितोष्णं च बलितं विदोषं भूषणप्रदम्।
असाम्यं रक्तपितं तत् त्वमाननि भिन्नवर्गः।। 1.19.201-203.
with proper medicine leading to cure."\(^{31}\) Someśvara describes the Kaśāya which is meant to control the Rakta-pitta.\(^{32}\)

After dealing with fever, its characteristic features, and remedies, Someśvara continues to explain on similar lines, many other diseases. The details of these are given below.

(1) *Kṣaya*: Someśvara says that highly polluted air enters the body and increases *Pitta* and *Kapha*. Then it enters the joints of the body. Thus *Kṣaya* is caused. According to him, the patient of this disease should swallow the Cūrṇa of Rāsnā, Tila and Balā mixed with ghee, Yastiki (Jeśṭhamadhū) and Utpala to get cured from this disease.\(^{33}\)

(2) *Chardi-roga* (Vomitting): Someśvara has mentioned that this disease is caused by consuming food which is not at all suited for one’s health.\(^{34}\) According to him this disease can be remedied by making the patient drink the mixture of honey, Kaśāya, made from the budding leaves of Jamboo, Cūta, Balā, Usira, Vāta and Šuṅga.\(^{35}\)

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31. ताज्जालायं रतिजयां यायं वलेन यापंचै | साध्यं चावहितं: सिद्धं सेपकं चाभेद्यायं | वर्कसंहितं निदानसम्भवन ॥ २.२७।
32. स्यामायं मेवुलवायेन तक्षक्छेन सिद्धान्तवेयं | लोकं मिर्यितं देशात् कर्षणाषालोहस्तं | मिथ्याण्तीं मिष्ठ्याणं स्यामायं शरवं दिन्तवं मधु | एतीः कृतीं मेदकायं सामितात्यायेन्द्रस्मन्ति | ॥ १.१९.२०४-२०५।
33. भूरं प्रकृतिलो वत्वं: कर्षणितमुदारस्तं | देहस्थीनं समाभिषयं क्षयोंगं समाहितं | उत्तर-तिल-वत्तापूर्णं सरह्वाण्डकोशिक्षलं | अवलोत्तर इत्यादिनमिन्द्रवं च नापावेत | ॥ १.१९.२१३-२१४।
34. अनिष्क्षेपयेर्थं मांल: कृपितं भृपम | उदारं कुरले छर्दे नाभभुक्तभावितम | ॥ १.१९.२१५।
35. जाम्ब-चुत-कलातीप-वर्दुहुस्वरस्रेण | क्षेत्रेण सहितं: क्याम: पोतक्षरदिविन्यानन्त | ॥ १.१९.२१७।
(3) Madātyaya, Moha, Bhrama, Tandrá, and Pralāpa. Someśvara says that these are caused by excessive and faulty drinking of wine. Madātyaya lasts for about five to seven days. If it lasts for more days than this, it is to be understood that it is some other disease.

Someśvara has said that this disease can be remedied by eating ‘Saktupiṣṭa’ with the mutton extract of goat, deer, rabbit, Tītīra and Lāva birds or by drinking sweet Pānaka or ghee. Someśvara says that these are the best remedies to cure such diseases.

(4) Arśas: He says that this is a disease caused by the protrusions (Aṅkura) appearing in the region of Gudadvāra (Anus) and intestine (Āntrāvali) as a result of prolonged maladhāraṇa (constipation). Someśvara has suggested that this disease can be remedied by applying the paste formed by the mixture of Śṛṅgi, Haritaki, Kuṭa, Bhallātaka fruits, and Tuthya (Blue-vitriol) at the region of Gudadvāra. Further, he has suggested that applying the paste formed by Mūla, (Amarphophallus), Śīghrubīja (Drumstick seed), Нимba (Neem) and Asvatha leaves, Bilva-fruits, akroda root (or Pilumūla) and Rāmaṭha at the Gudadvāra eradiates the Aṅkuras (Protrusions).
(5) **Atisāra**: Someśvara says that this is due to over-drinking of water. He has hinted at the remedies for the three types of this disease.

### Remedies:

In the *Mānasollāsa*, the author states *Ratnaparikṣā* (2. 4. 530-536). Gems, were considered helpful for medicines. Someśvara tells about the origin of gems, or *Maṇis*. The place of origin of *Padmarāgaṇaṇi* is Simhaḷa. Similarly, *Kuruvindamaṇi* is found in Kālapura, and *Saugandhamaṇi* is obtained in Andhra. Further, Someśvara tells that *Padmaragamaṇi* is the best in all the *maṇiṣ* or gems. The place of origin of the *Indranilamaṇi* is Simhaḷaḍaṛveṇa. It has four varieties, namely, White, Red, Yellow, and Black (2. 4. 492-493). Next the author tells about its characteristics, merits, demerits and so on (2. 4. 494-506). The place of origin of *Marakatamaṇi* is Turkasthāna. It has seven demerits, five merits and eight shades (2. 4. 507-508). The origin of *Sphaṭikamaṇi* is the Himalaya, Simhaḷa, Vindhya, and the bank of Tāpi river. Herein the main divisions are two, namely, *Sūryakāṇṭa* and *Candrakāṇṭa* (2. 4. 520). Further, Someśvara says, “*Candrakāṇṭamaṇi* is not available in this Kaliyuga.” Then he describes *Puṣparāga*, *Vaiḍūrya*, *Gomedha* and *Vidruma*. Further, Someśvara gives the characteristics of the *maṇiṣ* or gems. A good gem should be put into milk. If the milk changes its colour and becomes blue, the gem is called *Indranila*. It is loved by God Śanaīścara. The gems have their own characters, first of all heaviness, second spotlessness, third lustre or radiance and fourth inflexibility or hardness. These are the common characters. The uses of gems are – *Indranilamaṇi* gives

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42. सिंहले दु प्रवेद रत्नं पद्मरागमन्त्रम् ।
पीलं कालपुंडर्यं कुरुविन्दमिति श्रेरम् ॥
अशोककार्ताकावर्गये सामीकर्णिकं विदुः 
|| 2.4.475-476.

43. क्षीरमये शिवप्रीलत दुर्घः चेंडीलमित्रत्रोगतः ।
इद्रनीलः स च विज्ञेयो विवर्तनवल्लम् || 2.4.505.

44. गौरवं स्वच्छता कानिशः काठिण्यं रक्षणं गुणः ।
|| 2.4.531.
wealth, life, strength, and fame. The Marakatamaṇi is used to counteract poison.

1. Āmātisāra: Kaṣāya of the cūrnas of Rāmatha, or Nāgara, Mustā, Ghurnavallabha, should be taken along with food to promote digestion of food.

2. Pakvātisāra: The mixture of honey, with boiied Jambūpallava, Dhātaki, Jiraka, Cūtabija, Mahāvrkṣatvaca, Bilva, Aranāla, Gokaṇṭa, Pancāṅgula and Yava is the medicine for this disease.

3. Raktātisāra: The Kaṣāya of the mixture of Viṣā, Kuṭajabija, Mustā, Vālaka and Bilva is the medicine for this disease.

Further, Someśvara has stated that a person who does not take hygienic food while suffering from Atisāraroga, suffers from a disease called Grahaṇiroga. He has said that Grahaṇiroga can be remedied by taking the Kaṣāya of Sunṭhi, Ativiṣā Mustā and also Guḍūci.

Regarding Mūtrakračra, Someśvara says that it starts pain in the joints of the body especially in Mehana (Urinary track). He has mentioned the remedies for the Mūtrakračra disease. According to him this disease can be remedied by making the patient drink Kaṣāya made from Urabūka, Balā, Bilva, two Pancamūla (Laghu Pancamūla and Brhat Pancamūla), Yavā, Punarnavā, Bhīrumūla, Kulattha, Badara, Matsyākṣa,
Matsyabheda and mixed with ghee as well as oil. The fat of a hog and bear mixed with fine lavaṇas (Samudra, Saindhava, Bidala, Pāde and Kācala lavaṇa)\(^{50}\) should be added to the Kaśāya. Someśvara says that these are the best remedies to cure such diseases.

Thus we find that Someśvara has shown keen interest in the eradication of various diseases. This also exhibits his deep knowledge regarding the use of various medicinal plants and herbs, though he was a king.

In the light of all these discussions, it appears to be appropriate for Someśvara to express his opinion regarding the medicines. Someśvara says, medicines should not be —

1. देशविरुध्द in antagonism to climate and soil.
2. कालविरुध्द in antagonism to Season.
3. अभिविरुध्द in antagonism to digestive capacity of juices.
4. सात्यासात्य in antagonism to the constitution and diathesis of the patient.
5. संस्कारविरुध्द in antagonism to the mode of preparation.
6. रसविरुध्द वीर्यविरुध्द incompatible pharmacologically.
7. कोषविरुध्द detrimental to the condition of the digestive organs, in relation to their susceptibility.
8. अवस्थाविरुध्द affecting the general condition of the patient with reference to the time of administration.

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The methods of diagnosis adopted by the Āyurvedists, like those of the methods adopted in the Western system of medicine, depend upon the close observation of the patient, his mental and bodily conditions, environments and such factors are necessary to be understood to trace the origin and progress of the disease. In this connection Vāgbhaṭa says:

तस्माधिकारप्रकृतिरविश्लेषानात्तराणि च ।
बुद्धव हेतुविश्लेषणांश्च शीत्रं कुम्भकः प्रमोऽवधिप्रथमम् ॥
दूष्ण देशां बलं कालमन्त्र प्रकृति वशः ॥
सत्त्व सात्त्वः तथासहारमवस्थांश्च पुष्पविधा ॥
सूद्धसुस्मृतमाः सर्वश्चेत्यं दोषोपधनिरुपणे ।
यो वर्तनि चिकित्सायां न स स्वल्पात् जातुचित्तः ॥ — अ.०.५.४.12.६६-६८

The physician should first ascertain the nature of the disease, the derangement caused in it by the doṣas, the situations or the organs
where the derangement is manifested and the causes which are responsible for this derangement, and then begin to treat the disease. He who, during the examination of the patient, considers the conditions of the dhātus and the malas, the place of his residence, his strength and power of tolerance, the season of the ailment in question, the power of digestion, constitution and diathesis, the age, the mental state, the habits (likings) and idiosyncrasies, the food usually taken and other minute items related to the patient, and then arrives at a diagnosis and commences treatment, will never commit any mistake.

From this, it will be clear that the foundations of rational therapeutics are almost the same in both the ancient and the modern systems of medicine. In Ayurveda, Satva, Sātmya, Doṣa and Doosya have been looked upon with greater regard than in modern medicine. We have seen that the concept of the theory of ‘Cause and Effect’ has received greater importance not only from the evolutionary point of view, but also from the standpoint of practical medicine. The Tridoṣa theory, which is made to confirm the Pañca-bhautika conception, is throughout used as the basis for the investigation of disease and therapeutics.

In pursuance of the definition of ‘Life’, Mind, the other side of the human constitution, has, from the earliest times, been rightly considered as a possible factor in the causation of disease. Rajas and Tamas are stated to be the causes of mental disturbance-disorder. Psycho-therapeutics had, therefore, long been in vogue in India. In modern times too, the significance of psychology and its relation to medicine has been well recognised. In treatment, one has, therefore, to dive into the subconscious regions of the mind, in order to trace the course of the mental disorders. Consciousness (ज्ञात्व) is not an essential condition for the mental processes. Significant changes may go on in the mind of a person without his/her being conscious of them. It is in this subconscious region that the root causes of mental disorders lie.

Vāgbhaṭa insists on the necessity of the consideration of Satva along with Sātmya, Doṣa and Dooshya. Here Satva points to the state of the
mind, Sātmya to the susceptibilities, peculiarities and tendencies, Doṣa to the pathogenic factors and Dooshya to the changes in the primary seven tissues (Sapta-dhātu).

The appearance of disease (आयु), as Āyurvedists have repeatedly stated, first takes place in the Ādya-dhātu owing to the irregularities of food and drink, rest, exercise, variations in living etc. Unless the rasa is contaminated or the dhātu contained in the rasa are disturbed by अयोग, अतियोग or मिथ्यायोग, no disease can come into existence. This variation first manifests itself in the form of वृद्धि or क्षय in the सूक्ष्मावस्था of the dhātu concerned. The principle that underlies these processes has been enunciated as –

वृद्धि समानेः सर्वविंशिते विपरीते विपर्ययः I — अहुं.सू. 1.3

The dhātu of the body after getting nourishment from the different articles of food naturally assume the corresponding properties of the latter. There are, as Caraka points out, तत्त्वकारात्मक संबंधितत्वकरात्मकम् गुरुलबुधीतोष्णम् || — चरकसंहिता-शा.6.10.

An excess or deficiency of these properties in the first place gives rise to दोषुपपोर (diseased processes) and secondly to धातुपपोर (diseased structures) and धातुपक्ष (diseased organs). These three represent the pathology, morbid anatomy, and organic derangements, respectively, Caraka says,

कार्ययोनिधातुपक्षम्, तस्य लक्षणं विकारारम् || — चरकसंहिता-वि.8.14.

NIDĀNA-PAŅÇAKA

In Āyurveda, the Methods of Investigation of Diseases are usually described under the following five heads:

(a) निदान (Nidāna), (b) पूर्वरूप (Poorva-roopa), (c) रूप (Roopa), (d) उपशय (Upaśaya) and (e) संप्राप्ति (Samprāpti).

These are known as “निदानपंचक” where Nidāna means “रोगनियतम्.”
(a) **Nidāṇa** : means the ‘root-cause of the disease’ and may be वाह्र्य (external), आभाष्यं (internal), विप्रकृष्ट (remote), सत्त्र्रकृष्ट (immediate and hence exciting), प्राधानिक (primary), or अभिवाचारि (minor).

*Nidāṇa* is brought about by

1. असात्म्येंब्रियार्थसंबंधोऽन - incompatible correlation of the senses with their objects, i.e., transgression of the power of tolerance; e.g., exposure to cold, causing nasal or pulmonary catarrh.
2. प्रजाप्राध - Indiscretion in behaviour and irregularity in life,
3. External influences such as seasonal and climatic factors.

(b) **Poor-varoopa** : is suggestive of premonitory symptoms. The symptoms only suggest that some internal derangement has been started and that toxins are making their way towards the tissue-cells: दोषवृत्तमूलृच्नावत्स्य. The infection is still undeveloped and does not show any characteristics of a particular दोष (disease): लिङ्गमयब्रह्ममवतातु नाथिनाम. It is a precursor of future trouble.

(c) **Roopa** : When the दोष develops there is a clear manifestation of subjective symptoms and physical signs. These signs and symptoms go by the names: रूप, लिङ, नक्ष, आकृति, संस्थान.

(d) **Upaśaya** : Caraka explains ‘Upaśaya’ as सात्म्यवाणि हि उत्पशायः in the eleventh chapter of Sootrasthāna and defines सात्म्य (Sātmya) in the eighth chapter of Vimanasthāna as ‘सात्म्यं नाम तथातात्वात्वेवसंबंधमानमूपशेत’. Sātmya is thus that property which, owing to a habitual use, develops adaptability. So, if a certain property in an article brings relief to a patient by removing the disturbing factor, it is said to be an Upaśaya of that derangement. सुचानुसंबंधो यो देतुर्वाब्धाविचित्रतिकः (Sudant-Sen, Commentary on Mādhava-Nidāṇa). This is just like tracing the disease (cause) from the effect. In other words, it is an art – a device of diagnosing by “applied therapeutics”. Caraka advises this method of
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diagnosis when the रोग is अज्ञात; for he says गूढलिङ्ग व्याधिसुपप्तिनुपप्तिवाध्यायम्
परीशोभ || — चरकसंहिता-वि.4.15.

(e) *Samprāpti* : Means the knowledge of the way in which a certain
disease develops. By knowing the *Samprāpti* almost all the
circumstances related to the development of a disease, whether arising
from intrinsic or incidental causes, can be estimated.

The main features of *Samprāpti* are described as संख्या विकल्प प्राधान्य
बल काल विशेषता - माधव निदान.

1. संख्या (*Samkhya*) : the number of varieties or types in which
diseases manifest themselves. This is, of course, only a general
statement and hence does not give any idea of the particulars.

2. विकल्प (*Vikalpa*) : दोषामंगाशंकल्पना. This gives a correct idea of the
direction in which the different दोष (toxins) have developed.
This is eventually of great value in ‘Treatment’.

3. प्रधान्य (*Pradhānya*) : Nature of the disease as to whether it is
primary or secondary.

4. बल (*Bala*) : Severity or otherwise : (उत्तन - Uttana or गम्भीर -
Gambheera).

5. काल (*Kāla*) : Season, whether favourable or otherwise.

Next, the morbid phenomena which are ascertained by studying the
क्रियाकाल (*Kriyākāla*) in *Samprapti* are thus mentioned :

(i) संचय (*Saṅcaya*) : means the Accumulation of दोष.

(ii) प्रकोप (*Prakopa*) : means Excitation.

(iii) प्रसर (*Prasara*) : means Extension of lesion.

(iv) स्थानसंशय (*Sthānasamsraya*) : means Location of the affection.
(v) व्यक्ति (Vyakti) : Manifestation of symptoms.

(vi) भेद (Bheda) : means variation in the spread of the disease.

It is thus clear that all the details of 'Pathology' are taken into consideration by the Āyurvedists in following these methods of diagnosis. Clinical descriptions of symptoms caused by pathological derangements in the दोष and धातु are given by Śuṣruta in the fifteenth chapter of Sootrasthāna and by Vāgbhaṭa in the eleventh chapter of Sootrasthāna.

In surgical pathology, naked-eye appearances characteristic of दोष are minutely described in terms such as वर्ण, छाया, राग, दाह, पाक, कंठ, तोद, शोथ, कांठ etc. For the symptoms and pathological manifestations the reader should refer to the fifteenth chapter of Vāgbhaṭa's Nidānasthāna wherein detailed description of वातविकार (Vātavikāra) in the different आयास (Āsayas), धातु (Dhātus) and स्रोतस (Srotas) is given. Similarly, the derangements caused by Pitta and Kapha when they attack the सप्तधातु (Saptadhātus) and the resultant symptoms are given in the nineteenth chapter of Sootrasthāna of Vāgbhaṭa's Āṣṭāṅgasangraha. Both these deserve to be thoroughly mastered for a thorough understanding of the real part played by the दोष in their vitiated condition in respect of their influence on the body-tissues.

The pathology of निज and आग्नेयकरण is described accordingly as they arise from intrinsic (धातुचक्र) and incidental (आग्नेय) causes respectively. Āyurvedists hold that even these आग्नेयकरण, such as bacteria, have a constitution of their own which can be described in Tridoṣa terminology. These organisms have, after all, a material body which carry with them a type of Pancha-bhautika constitution. They grow under particular favourable conditions and die when the environment becomes unfavourable. The internal जंतु are the resultant products of the Tridoṣās, while the external have their origin in the environment. In treatment, importance is given to both types, as they are likely to transgress their limits and encroach upon each other. Caraka has
put this beautifully in the following words: आगंतुर्वेदयस्मि निन्जविकारं निजस्तायंतोमिप्रथुद्य्य || - चरकसंहिता-सूत्रस्थान-20.18.

आगंतु (रोग) is defined by him in the next chapter.51

In Āgantu diseases affliction is the first occurrence, and this is, in course of time, followed by derangement of the three doṣas. In निन्जविकार, Vāta, Pitta and Kapha are first deranged by some internal pathogenic cause, and then the symptoms (like pain) follow.

In the opinion of the Āyurvedists, the internal bacteria are only the result of failure in equilibrium in the body-constitution caused by chemical products of bad digestion. The chief reason why the ancient physicians do not totally depend upon the Bacterial theory is, because of the non-applicability of that theory in all diseases and in all individuals. They, therefore, while reserving the germ theory, its own place in treatment, are not ready to assign to it an invariable position in the causation of disease. In short, the origin and cause of disease suggested in Āyurveda is placed on a broader basis.

According to Caraka,52 diseases take place when toxins singly or collectively affect the lymphatics, blood vessels and the nerves in a person who takes insalutary food and has no control over his mind.

On studying the methods of Roga-pareekshā till now gone over, one should be able to estimate the extent of the virulence of the doṣas or the disease itself. But there is another side of medical examination which is very important, and which, if neglected, would make all attempts o

51. आगंतुर्वेदयस्मि वा समुद्यक्ष्यं जसद्वयं ज्ञातिस्तं लोकस्तं विद्याधीनार्द्वति निदर्शो तु गुरुपरिच्छेदात्। पूर्वं वैधमथापनं जगतः व्याधमथामित्वायाति तत्र - चरकसंहिता-सूत्रस्थान-20.7

52. पदात्तु स्त्रधारी तीटसंपाप्ति च ||
पूर्वस्त्रीयकवस्तं वा भोज्यति कृतिर्विन्दु मलम् ||
महिषामहाराजस्त: स्त्रियोहमेरुकिरस्तम्।
प्रत्यहत्याविष्टः जापने वेधतात्त्विन् - चरकसंहिता-सूत्रस्थान-24.25-26
treatment useless. And this is ‘आयुपरिक्रमा’, which means an approximate estimation of the state of natural resistance in an individual, both in normal as well as in the impaired conditions of health. It involves the investigation of various factors about the patient viz., those connected with his nature, temperament, constitution, hereditary influences, habit, environments etc. (For particulars vide Caraka, Vimāna, Ch.8). These undoubtedly throw a flood of light on the prognosis of the case and enable the physician to choose remedies of a definite potency. Caraka has given detailed descriptions about the methods of understanding the personal constitution of the patient in the first chapter वर्णप्रक्रिया of इतिवद्यान. This part of investigation is often neglected both by students and vaidyas and it will be no exaggeration to say that no method of treatment would be complete and successful without a knowledge of personal vitality and power of resistance of a patient. असाम्यमेत्यापरिषयो, the first condition mentioned in the array of etiological factors points to the natural resistance of an individual to disease. In fact, the first three stages, चर, प्रकोप and प्रसार, in the development of the disease, are directly connected with the personal resistance of the patient. The question of tempering the virulence or checking the progress of the disease depends upon a clear understanding of the elementary factors in Sampräpti. The significance of this, especially in treatment, is well expressed by Vāgbhaṭa.⁵³

An attempt should always be made to check the accumulation of dosas; but when the toxins are already there, treatment should be so adopted, whether by means of diet or medicines, that it does not provoke further complications. When all the three dosas are affected, one should aim at removing the affection which is more harmful or more advanced.

The credit of bringing these elementary principles of pathology really falls to the share of ancient Āyurvedists. Except through the

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⁵³ चर एव जनेष्ठों कुष्ठिः त्वाविघ्नान् | सर्वकोषे बलीयांशों शेषदोषीविशेषत्।। ।— अ.स.स.।।।.13.15
agency of *Tridosa* theory or some other, which is akin to it, it is not possible to understand the *samcaya* stage in the *samprāpti* of a disease. There is no doubt that imagination has to be stretched and inferences drawn upon probabilities and possibilities. Even in laboratory work much of imagination, discrimination and reasoning are required to arrive at conclusions. In research work, it is often found that theory and practice scarcely differ. The first directs the second, while the second confirms the truth of the first, Caraka expresses the same idea in the following words: प्रत्येकं तु खलु तत् यत् स्वयमिन्द्रवर्मनसा चोपलम्यते — चरकसंहिता-वि-4.5

This sort of thought-sequence is necessary to understand the *dīpāyurvedāsūtrāṇa* - the basis of *samcaya* and to trace its development further and correlate the particular *doṣa* with the particular symptoms.

**TREATMENT**

It must first be noted that the unique feature of *Āyurvedic* treatment rests on the consideration not only of *आयुर्विज्ञान* and *वार्तपदीय*, but also on the means and methods of application of medicines. Caraka at the very beginning of *Sootrasthānās* divides the whole subject of *Āyurveda* into two parts: 1. *हृदोपदेशीय* and 2. *स्वास्थ्योक्तरलर्गणम्*. *हृद* and *स्वास्थ्योक्तरलर्गणम्*, which embrace etiology, symptomatology and pathology. Some of the details of *आयुर्विज्ञान* will be treated in the following portion.

*स्वस्थ्योक्तरलर्गणम्*, i.e., attention to the personal well-being, is looked upon with equal importance in *Āyurveda* along with *Roga-Chikitsā*. It forms part of the subject of medicine and is not treated as a different subject as in western system. *स्वस्थ्य* is defined as दीपायुर्विज्ञानममरोगता and also as Caraka⁵⁴ has referred.

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⁵⁴. समदेशः समानिशः समप्राप्तिकः।
प्रसञ्चांशितमिद्यन्तः स्वास्थ इतिप्रथमते। || — चरकसंहिता-सूत्रम्यन-15.48
'Health' is defined as that condition of the body when the three *doṣas* of a person are in equipoise, his power of digestion is normal, the *dhātus* and *malas* are in proper order, he is cheerful, his mind is undisturbed and his sensory organs are normal.

Equilibrium in the three *doṣa*-the symbolic expressions of the three important stages of the body, is a necessary factor for the maintenance of health. The words समान्ति and प्रसन्नतालेखित्वमना are significant. In common practice, these do not receive so much attention as they deserve. In the case of treatment, Āyurvedists have given importance to प्रकृतिस्वाभाव and not restricted themselves to the cure of symptoms alone. If there is any speciality in the technique of treatment, it is this devotion of attention to the restoration of health. *Doṣa-Sāmya* constitutes the first consideration in treatment. This sententious word carries with it a world of meaning. For, the effective character of all the numerous forms of treatment, finds a place in the realization of *Doṣa-Sāmya*. Caraka says, \(^55\) maintenance of equilibrium in the three *dhātus* is the primary object intended in treatment; and maintenance of hygiene (स्वास्थ्य) also requires the same precaution, viz., *Dhātu-Sāmya*.

In order to attain these ends, Āyurvedists proposed the following methods of treatment. These are classified into two main groups:

1. संतर्पण or वृङ्ग. 2. अपतर्पण or लघु. पार्विव and आयप्रवस्थs characterise the former, and आम्बेय, नवम्ब and आकाशीय the latter. लघु again consists of two forms, viz., शोधन and शामन. Of these, शोधन can be accomplished by (a) वमन, (b) विरेचन, (c) शिरोविरेचन, (d) वस्ति and (e) अलंकरण and शामन can be accomplished by (a) पांच, (b) दीप, (c) शूलु (अनुवर्तन) (d) तृष्ण (उदकवर्तन), (e) व्यायम् (f) आत्म and (g) मस्ति.

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\(^55\) एवादेहि हि प्रकृतिस्वाभावः फलमिः स्वस्थसुविद्यन्तिः च यायाम्बुतृत्वाः साम्य स्वाभावः।। — चक्रसंहिता-शा.6.7
The whole list comprises the following forms:

1. टॉनिक - Tonics.
2. त्वचांकृतिकरण - Protectives, Emollients and Demulcents.
3. स्तंभन - Astringents.
4. वमन - Emetics.
5. शौदन - Purgatives and Diuretics.
6. नस्य - Sternutatories.
7. वस्त्रि - Enema and Douchings.
8. अखविमोचन - Blood-letting.
9. शोधन - Diaphoretics.
10. शोषण - Absorbents.
11. पाचन - Digestives and Carminatives.
12. शीत - Stimulants; Respiratory, Cardiac, Nerve and Gastro-intestinal.
13. खुत - Fasting.
14. तूट - Restriction of water.
15. बायाम - Exercise.
16. आत्म - Fomentation.
17. मश्लू - Ventilation.

The modes of therapeutic action included in these different forms of treatment fall under six heads:

(1) हेतुविपरीतिः corresponds to Rational.

(2) वाक्षिलविपरीतिः " " Symptomatic.
(3) हेतुव्याधिविरोधी corresponds to Rational and Symptomatic.
(4) हेतुदर्दर्शकारी
(5) व्याधिदर्दर्शकारी
(6) हेतुव्याधिदर्दर्शकारी

These involve the principle 'Similia similibus curanteur.'

The first three are clear enough and need no explanation. The remaining three form the basic principles of homeopathy, where medicines which create the same condition as the disease, are used.

In Āyurveda and modern medicine, the first three lines of treatment are chiefly used. In the former हेतुव्याधिविरोधीतिथिक्षा receives the closest attention, as Dhātu-Vaishamya whether brought on by Nija or Āgantuka causes is the chief object for attack. Undoubtedly this subjective view of the Āyurvedists has a greater advantage over the objective methods of व्याधिव्याधितिथिक्षा. व्याधि is, after all, a symptom and may be produced by a number of causes. For instance, headache may be caused by derangement in any one of the three doṣas. The right application of medicine would be to remove the cause first as it automatically removes the diseases also. In the treatment of acute diseases, such as fever, this method is greatly useful. In chronic diseases, as there is a jumble of symptoms brought on by व्याधिसंक्रमण, any one of the two or both have to be used. There are, again, some diseases where the primary symptoms are not detected; in such cases, symptoms, which are after all the manifestations of the cause, require to be treated. Suśruta explains this as, in cases where there are sequels and complications great discretion has to be used in choosing the line of treatment. One has to meet the circumstances of the case and treat it accordingly. Because, when the complication is severe and intolerable, it requires to be necessarily treated first. The instructions of Vāgbhaṭa are very clear on this point (Vide Chapters 12 and 13 of Sootrasthāna). Palliative and symptomatic lines have their own place in treatment and so cannot be neglected.
Similarly, a heroic line of treatment should not be adopted without a consideration of all the causative factors and their progress in the evolution of all the stages of disease. For, a natural elimination of toxins is always in operation on the part of the organism, and any attempt to disturb it, is bound to be harmful.

CLINICAL EXAMINATION

The clinical examination in Āyurveda is conducted with the knowledge given by I. Pratyakṣa. II. Anumāna. III. Āptvacana.

I. प्रत्यक्ष (पंचभित्रोत्तरादिभिःप्रश्नेन च).

II. अनुमान.

III. आप्सरचन.

I. Pratyakṣa-Pareekṣa (प्रत्यक्षपरीक्षा) includes examination by the five senses and by asking direct questions to the patient or to his relatives.

The following are the five senses used for Pratyakṣa-Pareekṣa.

(a) श्लोक्षनिद्रिय प्राण्य By hearing sounds, noises etc. and by marking the voice.

(b) स्पष्टिनिद्रिय प्राण्य By touching, feeling and manipulating with hand.

(c) विचुरनिद्रिय प्राण्य By seeing the various parts and noting the changes therein.

(d) रसनिद्रिय प्राण्य (1) By judging the taste of the discharges, secretions and excretions as felt by insects such as ants, flies, etc., and (2) by inquiry into the nature of the tongue and taste in the mouth.
Modern books contain detailed information on this most important subject and the students do well by referring to such books. The methods given in Ayurveda are exactly analogous to inspection, percussion, auscultation and mensuration as understood in modern literature. Since the advent of the thermometer, the stethoscope, the microscope and various other instruments for examining the eyes, ears, nose, throat, the stomach, the bladder, the rectum, etc., much knowledge has been added to what could only be gained by old methods. Electricity especially has been of great use for the purposes of diagnosis and treatment. X-ray analysis, radiology, the electro-cardiogram, ultraviolet rays, ultramicroscopy, infra-red rays, photography, diathermy, etc., have been all very important additions to the plain physical instruments, till now in use. Great advance in diagnostic radiology has been recently made. The radiologist visualises the biliary tract and the gall-bladder by means of certain chemical substances; by injection of air he can outline organs in the abdominal cavity and the sinuses in the brain. By the use of organic compounds of iodine, he can make visible the lungs, the air-passages, the interior of the uterus, etc. Modern fluorescent screen enables digestive movements, heart beats or lung movements to be watched. It cannot yet be said how far physics can be of use to the development of the science of medicine in future. The Ayurvedists must move with the times and make use of the knowledge gained by these instruments for the elucidation of many unexplainable statements found in old literature.

Anumāna : अनुमानं नाम तकों युक्त्यय्युक्तय, यथोक्तं, अति जरणशक्तया, बलं व्यायमशक्तया, भोजनदीनि शापदिग्रहणेन्द्रेवमा०.… || चरकसंहिता-वि.8.6-32.

Anumāna means examination by inference. This involves descrimination between things noticed and association of ideas. All
advance in knowledge must consist of both these operations; for, objects first appearing separately, are brought together in the course of our observation. Analysis and synthesis are thus incessantly alternating mental activities without which no ordinary progress in the currency of thought is possible. Reasoning again is an important application of thought to arrive at conclusions, and to know essential and non-essential characters of occurrences. Caraka has made reference to all these mental processes as they are necessary for the proper understanding of the case. The first chapter in Shareera-Sthāna is very important in this respect to study a case and to arrive at a proper diagnosis. For the systematic method of case-taking, this examination is absolutely necessary. Even in the methods of examination by प्रत्यय and आस्त्वच, अनुमान is necessary for discriminating the determinative purposes. For, in Rasa-Pareeksha, we have to depend upon what the patient says regarding the taste in his mouth, or we have to infer the condition of discharges from the way in which insects are attracted to them.

Anumāna again has some scope when one has to judge the condition of the patient from his cravings, mental attitudes, facial expressions, and so on.

Apta-Vacana तत्रांतोपदेशोंनामास्त्वचम्, आशा द्वितर्कमृतिविभागविदो निष्क्रियापत्ता-पदर्शिनेषु || — चरकसंहिता-वि.4.4

Upadesa means the rules laid down by experienced clinicians without any restrictions such as formality, faddism or pre-possession. Caraka defines आस्त्वच as the advice of disinterested persons whose judgement is well-founded, admitted by scholars and scrutinised by authoritative persons and whose word is only meant for the welfare of humanity परीक्षेण प्रणीतं शिक्षानुसर्तो लोकानुग्रहप्रवृत्तं शास्त्रवादः, स च चालामाम् || —चरक संहिता-सूत्रस्थान-11.27

It must be noted here that the ancient Ayurvedists who wrote works on medicine, were well-versed in other sciences also such as logic,
philosophy, grammar, etc., and so their observations were based on truth and impartial judgement. Though they appreciated the principles laid down in other sciences, they accepted only such of them as would agree with the purposes of medical science. The adjustment of the Pancabhautika theory and formulation of विद्वानमित्रांत्रिकाचे निर्देशन but have made such alterations as would suit their purpose. They were aware of the wide range of the ways of medical relief, and having kept their mind open to good sense, truth and justice, welcomed all suggestions and deliberations for the sake of human welfare. It was with this object that संभाषणारूढत्त्व were arranged in olden times. Caraka’s words in this connection deserve to be remembered:

So, in other words, Āpta-vākya does not only mean blind following but it also means authority proved by facts and tested by experience. In recent times, much is made of such therapeutics which is named ‘inductive science’ based on observation. Āyurveda does not only accept this, but goes further and makes use of deductive conclusions also, whenever necessary. Therefore, treatment ought to be such that the application of the remedy should be faultless and not one sided. Vāgbhaṭa says,

प्रयोगः शमयवक्षाधिकूण्डे योज्यमुदीरवेत
नाज्ञो विशुद्भु शुद्धस्तु शमयेथो न कौषवेत II — अ.हु.सू.स.13.16

That medicine which temporarily alleviates symptoms, but may give rise to appearance of disease in some other situation, is not rational, i.e., based on correct principles. But such treatment is appropriate where the medicine modifies but does not, at the same time, provoke new complications.

56. न वैय क्रस्तिः मृतामपुरुषदर्श्या पाप, तत्साक्षायं: सत्यविवेष्य्यवत्सिन् गच्छेत्, एतद्दा कायर्मेवंभुवार्थ वस्तुस्विहतयमस्वक्ता परमेयेऽवण्यमतित्वम् II — चासकसहिता-वि.8.6
Salient features of *Pañcamahābhūtas* and the theory of *tridōsa*

In the *Manasollāsa* more importance is given to उत्तमाहान्ति. उत्तमाहि will not stop, if he experiences loss or fails in his efforts. It says, “The good work begins by the person, if he does not succeed in that work, he must not give up his efforts. He should continue that work with confidence and then he will succeed.” According to *Manasollāsa*, a physician must study salient features of *Pancamahābhūtas* and the theory of *Tridōsa* before the treatment.

Earth, water, fire, air and ether are the five elements or पंचमहाभूतस. The continuation of these five elements is known as प्रृकृतिः or unmanifested nature. प्रृकृति evolves from the intellect which is known as महत्त्, ego - अहंकार - and the five elements are produced by the *Pancatanmātras*. ज्ञानेन्द्रिय, करणेन्द्रिय and मनस् form the five elements. पृथ्वी, आपू, अति, वातु and आकाश are the five *Mahābhūtas*. The gross human body or for that matter, the body of any living being, is also composed of five *Mahābhūtas*. The external frame of this universe also has the same material composition. As the source material is the same, there is great similarity between the outer universe and the skeleton or the outer frame of any living being.

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57. *प्रृकृतिवंशिष्ठितं संसूरितिविचल, ततो महान् ज्ञातः*।
*महात्ववाहकोऽपि समवा नमन्त्वायसः*।।
*एकादशोऽन्विता अवाग्रांगाधारिः चाथास्यन्ते*।।
*तत्प्रतिष्ठ्ये भूतानि विद्वदवायनुसः च भूतानां*।।
1.25-26
- पोइशान्वीवर्मा - P.V. Sharma.
The gross human body is the combination of प्रृथ्विति and पुरुष. पंचमहाभूत्स form the प्रृथ्विति which is unmanifest. पुरुष is also the product of the पंचमहाभूत्स but he is known to have six components, five Mahābhūtas and the self or जीव. It is the पुरुष who is subjected to medical treatment. A student of medicine is expected to know both प्रृथ्विति and पुरुष minutely for acquainting himself with the structure of human body which forms the study of anatomy and physiology. After carefully examining the structure of the body, one should proceed to find out the cause of disease and disorder and think of preventing or curing the same. After physiology, pathology is the next step in closely observing the cause of disease before undertaking any कायचिकित्सा or medical treatment. It has already been mentioned that it is the पुरुष, the combination of पंचमहाभूत्स and the self that is subjected to medical treatment.

शरीर or anatomy and physiology form the foremost basic principle in this science. The meaning of the word शरीर is said to be ‘decaying’, that which शीतलता or decays, is known as ‘शरीर’. Besides this, देह and क्राक्ष are also used to denote the physical frame of a living being. क्राक्ष is also mentioned as the abode of जीव or soul. The body or शरीर is composed of trunk, head and other parts connected with it. तलक or the skin covers the whole body. अस्थि-bones, support the human body. The human skeleton is bound by several bone joints. पेशि or muscles are attached to bones. नाडी are attached to the brain and spinal cord. They are spread over the body

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58. खं चादुरविबारणं । प्रभृवं चैतानि पञ्चाभूतानि ।
लघुवाक्षेरप्रवृत्त्वम् शरीरं गुरुति गुप्तसौभायं ।] - तदेव 27

59. पद्मभावनामयः पञ्चमहाभूतानि गुरुत्तायं ।
पुरुषो वेदात्तानां मात्रिकार्यकृत्यानित्येकस्य ।] - तदेव - 28
causing sensation and controlling movements. धर्मनी - arteries, are channels carrying blood from heart to different organs; तिरं - veins bring the blood back to heart slowly. Between these two are केशिका or capillaries through which रस - nutrient material or serum, oozes to the tissues. हृदय or heart, indicates the three phases receiving, supplying and movement of cardiac cycles. Heart is the main source of life. None can live when it stops. The earliest sages have called it as the seat of consciousness. 60

Heart is the receptacle of रस and रक्त. It distributes रस and रक्त to the whole body for nourishment and draws out impurities from the same. This is like a lotus situated in the chest. It is flanked by two lungs. Below on the right side is liver and on the left is spleen. Impure blood is purified in the lungs with the help of oxygen drawn in by respiration. Liver is the root of the channels carrying blood and also of पित्र - bile. पित्र digests the food taken in. Food after digestion is separated as रस - essence and मल the excreta. रस, absorbed from the intestine, goes to heart and मल is expelled from the body. 61 The urine formed in the kidneys is collected in the urinary bladder. ऊर्ध्र is seminal vesicle. योनि - female genital tract - is an important seat. Head consists of brain, prāṇa and senses and as an important मन - sensitive organ. Any injury caused to head, heart, lungs, etc. may prove fatal.

Pancamahābhutas - पंचमहाभूताः - no doubt prepare the frame of living bodies; but by themselves they cannot function. After life enters the body, the three vital principles that are visible in the system, regulate and control its biological functions. वात, पित्र and कफ are the three vital

60. पंचमहाभूताः - 'पंचमहाभूताः' P.V. Sharma pp 180-181.
61. पंचमहाभूताः - 'पंचमहाभूताः' P.V. Sharma, Chapter II pp 14-15.
principles which are the subtle forms of the *pancamahābhutas* - वात - (air), अग्नि - (fire), तेजस् and अष्ट - water. आकाश - ether is too subtle and पृथ्वी - earth is too gross. Both of these cannot be involved in any of the above functions.62 Although every material is composed of the पंचमहाभूताः, there is predominance of any one of them.63

वात, पित्त and कफ are considered as त्रिदोषेः. Wherever there is life, these three दोषाः exist.64 Every living cell is pervaded by these दोषाः. Only then they can function. In all inanimate objects and the dead, there is no function at all. त्रिदोषेः are necessarily connected with प्राण or life. These त्रिदोषेः cover a wide range of animate groups. It is very interesting to note that वात, पित्त and कफ have each five types of दोषाः and each has specific functions of their own as shown below:

<table>
<thead>
<tr>
<th>Types of दोष</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>वात</td>
<td></td>
</tr>
<tr>
<td>1. प्राण</td>
<td>Respiration</td>
</tr>
<tr>
<td>2. उदान</td>
<td>Speech</td>
</tr>
<tr>
<td>3. समान</td>
<td>Stimulating digestive fire.</td>
</tr>
<tr>
<td>4. व्यान</td>
<td>General movements</td>
</tr>
<tr>
<td>5. अपान</td>
<td>Excretion.65</td>
</tr>
<tr>
<td>पित्त</td>
<td></td>
</tr>
<tr>
<td>1. पाचक</td>
<td>Digestion</td>
</tr>
<tr>
<td>2. रंजक</td>
<td>Pigmentation</td>
</tr>
<tr>
<td>3. प्राचक</td>
<td>Lustre</td>
</tr>
</tbody>
</table>

62. तत्त्वध्यायः कृतिपदानिवर्तता मात्रार्होदया विध्यय पूर्वमुक्ता प्रत्येकः। - चक्रसंहिता - शृवस्त्यम्भ 4-12.
63. सूचमाश्रयशिरसीयेकस्बशः प्रथमाददास्तितिकाः विशेषः।...। - सूःतुच संहिता - शृवस्त्यम्भ 41-3.
64. नित्या प्राणपुत्रम् देशे वायुसिद्धकारसः।
   विकृतस्य प्रकृतिस्य वातान्त्र वृत्तिमेति विषोधः।...। - चक्रसंहिता - शृवस्त्यम्भ 18-48.
65. ते भূत्व देशसुदासदायानि भावान्तः स्वातन्त्रायनां। विचित्रः...। - चक्रसंहिता - शृवस्त्यम्भ 28, 5-11.
<table>
<thead>
<tr>
<th>No.</th>
<th>Dosha</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Vata</td>
<td>Foam in the heart</td>
</tr>
<tr>
<td>2.</td>
<td>Pitta</td>
<td>Taste-perception</td>
</tr>
<tr>
<td>3.</td>
<td>Kapha</td>
<td>Saturating Head</td>
</tr>
<tr>
<td>4.</td>
<td>Kapha</td>
<td>Moistening food.</td>
</tr>
<tr>
<td>5.</td>
<td>Pitta</td>
<td>Uniting joints.</td>
</tr>
</tbody>
</table>

Although all pervasive *dosas* manifest in certain particular positions, vata manifests below the navel, pitta between heart and the navel and kapha above the head. According to टूटव्यं these three - वात, पित्त and कफ - are influenced by biological and environmental factors and undergo changes. वात, पित्त and कफ increase in old age. Variation of seasons also causes accumulation, aggravation and alleviation. वात, पित्त and कफ are prone to accumulate in summer, aggravate in rainy season and alleviate in autumn respectively. *Dosas* caused by वात, पित्त and कफ vary according to different seasons. Prevention of these seasonal disorders, requires modification of routine and the physician has to be aware of this fact before starting any treatment.

All the biological functions are controlled by the three *dosas*. These *dosas* cannot be restricted to any gross substances as they are all-pervasive. It is for this reason that all biological factors are

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66. तत्तवश्रृंखलहि विशेषण पवित्रायमविशेषम् पितुः... - सर्वसाधिक - सूत्रस्त्राय 21-10.
67. स्नेहे दु पन्नस्छ उच्च स्थि स्वरक्र त्वरीति... - अष्टादशदशं - सूत्रस्त्राय 12-15-18.
68. वयोहिनेऽस विशेषणात् तेजसमश्वादितः क्षणम्।
     तैसबिशेषार्थाशीक्षणो मन्दराशिनि: सम्म। - अष्टादशदशं - सूत्रस्त्राय 1-8.
69. चतुर्कोशमृः पितातीताः चक्रान्ति:॥ चतुर्कोशमृः पितातीताः चक्रान्ति:॥ - चक्रसाधिक - सूत्रस्त्राय 17-114.
classified into three groups वात, पित्त and कफ according to their functions.

An experienced physician knows that the functions of the three *dosas* depend upon the diet and its nutritive value. Quantity of food is also another important factor to be kept in mind. Along with diet, drugs also have great effect on the three *dosas*. These drugs are having पंचमैतिक composition and are mostly influenced by *Rasas* or tastes. The effect of *Rasas* on *dosas* is indicated by the drugs. *Rasavaisesikasūtra* deals extensively on this point by enumerating the *Rasas* and their characteristics.

*Rasas* are six in number. मधुर (Sweet), आम्ल (Sour), लवण (Salty), कदु (Pungent), लिक्त (Bitter) and कषाय (Astringent). *Dosas* are influenced by these. मधुर - (Sweet), is composed of आपू (water) and धृतिपी (earth). It aggravates कफ and pacifies वात and पित्त. आम्ल (Sour) is said to be composed of पृथिवी and अनि aggravating पित्त and कफ and pacifying वात. लवण (Salt) is said to be the component of आपू and अनि aggravating पित्त and कफ and pacifying वात. पृथिवी is a component in आम्ल and आपू is a component in लवण. The aggravation and pacification in both are the same.

कदु (Pungent), is supposed to be composed of आपू and अनि aggravating वात and पित्त and pacifying कफ. लिक्त (Bitter), is having the components of आपू and आकाश aggravating वात and pacifying कफ and पित्त. कषाय (Astringent) is said to be the composition of पृथिवी and आपू aggravating वात and pacifying कफ and पित्त. In लिक्त, आकाश is predominant whereas in कषाय, पृथिवी
is prominent. In the same manner, आप् is a component in कातिक and बातु is a component in कटु. But in this case, aggravation is पित्त and कफ whereas, pacification is in वात and कातिक. And aggravation in कटु is वात and पित्त and pacification is in कटु.72

On closely observing the effect of Rasas on doṣas, one can make out that each Rasa has a positive action, either aggravating or pacifying on two doṣas. Each has two predominant पंचमालम्बुलक in its composition also. It may be noted that aggravation is another name for वृद्धि or increase and pacification is another name for क्रम or decrease. शीत और उष्ण for that matter are based on अनि and सोम of the scriptures. पित्त is increased by उष्ण while शीत increases both कफ and वात.73

Ayurveda gives description of धातु (supporting tissues and entities) and मल (excreta) alongside with त्रिवेश. धातु is concerned with the digested food which in the form of आहारस्त्र (essence of food) is absorbed and carried into the circulation of blood. There is रसधातु in the blood which is nourished by these धातुस. धातुस are mentioned as seven in number such as रस, रक्त, मांस, मेदस्त, अखी, मण्डा and शुक्र. रस is meant to traverse through arteries which act as irrigating channels through which blood flows. By the essence or आहारस्त्र, धातुस are sustained. मल or excreta is thrown out or discarded by the system in the forms of mucus, dirt, sweat through eyes and skin.74

Along with त्रिवेश and धातु, स्त्रीतु (arteries or channels) also play an important role in the spread of disorders or disease in the पुरुष. अनि is required for transformation or conversion of digested food into आहारस्त्र. Similarly, स्त्रीतु is necessary for a continuous flow of आहारस्त्र. Just as any

72. Ibid. 10.1, 6-21.
73. तेत्वाद्वनु, वैयर्य प्राणिन्तिलि |.... - चुरुतसहित - सूचस्थान - 40-5.
74. तेत्वाद्वनुसदायो रस: किर्ठि च मलाक्ष्यमितिन्तिलि | - चक्रसहित [सूचस्थान 28.4], विकितसास्थान 15. 18-19.
obstruction in the channels dries up a land or field, any hindrance or obstacle in the खोलम् causes disorder in the system. Thirteen main channels are described by Caraka and he names them as प्राण (air), उदक (water), अद्वा (food); रस, रक्त, मांस, मेदसु, अस्थि, मन्त्रा, शूक्र (which are also referred to as धातुस्); मूत्र (urine), पूरीष (faeces) and स्वेद (sweat). Symptoms of their disorder are also stated by him.75

Three phases of दोषस्थान — वृद्धि and क्षय and importance of धातु in the System

It is necessary to emphasize here that when प्राण enters the material body, the three दोषas, वात, पित्त, कफ, emerge and physiological functions start. वात is composed of air or ether. पित्त consists of heat. कफ is the combination of water with earth.76 The three दोषas - वात, पित्त, कफ – cover the whole system and start functioning from top to bottom of a living body.77 दोषas define प्रकृति or the human constitution and produce disorders in the living beings.

The three दोषas have characteristics contrary to each other and maintain साम्य or सम्भोग (equilibrium) in the system. They can be said to behave in the same manner like the three गुणस् - सत्त, रजस्, तमस्.78

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75. दिवस्कृतत्वशो नातिविश्ववर्तेः प्राणांनि, इतरे पुनःपुनः, संस्मरणायािहातत्वसिद्धान्तायत् राजस्तु, अतो दिवस्कृतत्वम्। "Ibid. 6.5-9.
76. प्राणार्यं संपौर्ण वृष्णे जयं पत्तियुगानिभवे | जीवनकृत्यश्रेष्ठी सज्जायं त्रों दशा।। "Ibid. 37-38.
77. दोषास्वोर्दशी देखे व्याष्टा, सकले सदा प्रकृतिम्। सवं सवं कर्म विलिन्तं सिद्धा, सिद्धान्तायाह्यादेशस्म।। "Ibid. - 33.
78. दिवस्कृतत्वशो नातिविश्ववर्तेः प्राणांनि, इतरे पुनःपुनः, संस्मरणायािहातत्वसिद्धान्तायत् राजस्तु, अतो दिवस्कृतत्वम्। "Ibid. 36.
These *dosas* have a peculiar feature of increase, aggravation or दृढि अनुगतिः according to age, day and night and intake of food. They must be properly diagnosed and treated. A physician identifies the same according to the qualities of *dosas* enumerated in the texts. वात has the characteristic of cold, light, subtle and unstable. *पित्त* is rather hot, sharp, liquid, sour, pungent and moving. कफ is heavy, cold, stable and slimy. When drugs having opposite qualities are administered, these *dosas* decrease or get pacified and undergo क्षयः.

After describing the characteristics, the functions of the three *dosas* are also enumerated. वात means movement. The normal functions of वात are mentioned as enthusiasm, respiration, transportation of nutrients or धातुस and proper elimination of excreta -

उत्साहो निश्चयासोच्चासा चेता समा च धातुगतिः ||
मलनिर्देशः सम्यक्स भायोः स्वातः प्राकृतं कर्म || – पोझाक्रुष्ठस्यम-मी-43

The word पित्त is derived from the word ताप which means heat. All functions related to ताप are performed by पित्त. Digestion of food, body-heat, thirst and hunger, vision, lustre, cheerfulness and intellect are its natural functions -

आहारपित्तिर्लभ्या देहे श्रुत्तद्व तथा समा दृढिः ||
तेज्ज्रासादेवसमा पित्तस्य प्राकृतं कर्म || *Ibid.*, 45.

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79. रूक्षः श्रीति तदप्रथ युक्तोऽस्यते व्रतसादिविषयः ||
खलवाचारणी पूर्वनैवौनेनविविधिकरणः ||
ईश्वरस्यविभूतिः सृष्टिः प्रवृत्तः भयंकरस्यसंयुक्तम ||
सत्यसंयुक्तविद्वालिनी पिति तद्व: गुणीः प्रेक्षाय ||
गृहस्वायुक्तविद्वालिनी सूचारणसम्बन्धः ||
स्थिरस्यविभवस्यविभवस्यविभवस्यस्मिन्तथा ||
स्थिरस्यविभवस्यविभवस्यविभवस्यस्मिन्तथा ||
विषयस्यविभवस्यविभवस्यविभवस्यस्मिन्तथा ||
इति दोषसंयुक्ताः धृतः मनसि भिषक्ष कर्म कृत्यत् ||
– पोझाक्रुष्ठस्यम-मी-45
d - P.V. Sharma, 38-41.
श्लेष्मा or कफ has many notable features. श्लेष्मा is the root from which कफ is originated. The meaning of this word is 'to embrace'. Uniting, healing, etc. are, therefore, the functions of कफ. It is supposed to bind by providing firmness, heaviness, virility, strength, etc. to the body. Forbearance, patience and absence of greed are the other functions of कफ.

The त्रितेर्मा mentioned above along with their qualities and functions have to pass through three phases. They are स्थान or normal status, वृद्धि - increase and क्रम - decrease. Normal functioning of दोषाः is said to be the prominent feature of स्थान or natural status. This is an indication of health of a healthy person. Symptoms of disease or disorder are indicated by वृद्धि (increase) or क्रम (decrease). These are considered abnormal states caused by dis-equilibrium or बौधम.

Increase or वृद्धि of doṣas is also classified under two categories. One is संचय or accumulation and the other is प्रकोप or aggravation.

The contributory factors for the aggravation of doṣas can be listed according to the intake of avoidable diet, variation of age of the human being and the natural seasonal changes.

Intake of rough, bitter and pungent substances in diet causes aggravation. Over eating or undue fasting results in aggravating बात. Suppression of natural urges and excessive physical exertion increase बात. Intense cold can also be mentioned in this order. Mental worry
and keeping awake at night result in excessive वात disorder. In old age, वात normally aggravates. Rainy season is also conducive for वात to shoot up.\(^8\)

Pungent, sour, hot and irritant substances in diet cause पित्त. Anger aggravates पित्त. Young age is prone to be the victim of पित्त disorder. Autumnal season is also mentioned as the reason for increase in पित्त or पित्तविकार. Mid-day and Mid-night are also stated to be the cause of पित्त aggravation.

Excessive intake of sweet, sour, salty, slimy and heavy substances in the diet causes aggravation of कफ. Sleeping in daytime and lack of physical exercise results in the increase of कफ. Childhood is receptive to aggravated कफ. Spring is the season not favourable for कफ to be normal.\(^8\)

It has been mentioned already that doṣas get pacified after treatment through drugs having opposite qualities. Qualities of doṣas in the mind also should be kept in view before starting any treatment. In order to begin the course of treatment, one should be aware of the symptoms of these doṣas. These symptoms of aggravated doṣas in वात are found to be pain in abdomen, stiffness, contraction and heaviness in the body, blackish stool, emaciation, loss of sleep; instability, roughness in the skin, irregularity in digestion, abnormal taste, dryness in the mouth etc. After closely observing the symptoms, they have to be eliminated through enema. Then it has to be pacified with the intake of sweet, sour

\(^{82}\) P. 52-53.
\(^{83}\) P. 56-57.
and salty items, rest and sleep. It is said that after treatment such *doṣas* do not recur.\(^8^4\)

*Pitta* is normally caused by heat. As such, burning sensation, unusual perspiration, thirst, yellowishness in skin, eye, urine, etc. are regarded as its symptoms. Purgation is the process of eliminating these symptoms. After treatment, वित्तिविकार or प्रकोप can be pacified by the intake and sprinkling of cold water. Sweets, bitters, etc. also help in *पित्तशामन*.

Aggravation of कफ results in heaviness, indigestion, nausea, salivation, drowsiness, excessive sleep, depression of body and mind, etc. Emesis can be used for eliminating the symptoms. Intake of bitter and pungent substances and physical activity help in pacifying कफ प्रकोप. Application of irritant, hot and rough items also help in this process.

*दोषप्रकोप* or aggravation of *doṣas* can be made out through abnormal symptoms in the system. Their normal characteristics are absent in the state of ध्यय or diminution. In the साम्य or समयोग state *doṣas* conform to their normal functions.\(^8^5\)

वात, पित्त and कफ are विदेशविद्य necessary for the maintenance of the body. Just as the three *gunas* - सत्त्व, रजस्, तमस् - with their distinct characteristics maintain equilibrium, the three *doṣas* also with their

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84. जोषे तात्त्व भवेच्छूल जटारुण रुग्न ल瞠ः | साभ्यं संकोचाम; ककारेता कुण्ठताविद्वात | *Ibid.* 58.
85. मघुमृतलवणंयंवतं दलेन्ह विकल्पमेवत | सहु; स्वविप्राथातु विद्यामानिन्त्य एहि | सत्त्वातिकविवादीं विरित्त्व फ्ताति | साक्ष्यवन्य सुहुदातिष्ठ वीलितलवणमेवाक्ष्याय | द्रव्यं वित्तिविकारं कदुपस्तनेमं सम्याति | तीश्वराधिकायिं जगारणाच्छेदं चापि | कुण्ठत्व अन्यायतिरुग्नः श्राणिः दोषः स्वल्पस्तन जवहरिः | साम्यत्त्वात् अवतारः प्रकृतः स्वं कुवची कर्म | *Ibid.* 66-69
peculiar characteristic functions, maintain normal status in a healthy body. They also produce abnormality such as वृद्धि - increase and क्षय - decrease. Abnormality is very much pronounced in वृद्धि and weakness in क्षय. Proper identification of the qualities of each दोष is necessary before proceeding on the course of treatment. Each दोष can be treated by a drug having opposite qualities. Symptoms of each *doša* are listed so that the physician may easily find out the cause of abnormality and determine the quantum and quality of the drug for eliminating the *doša*.

विरोधात्मक and their different phases form a very important study as they play a vital role in physiology and pathology of living beings. कफ, पित्त and वात may pervade the whole body; but they are particularly located in the head, navel (नातिस) and below, respectively -

दोषाद्वयोऽपि देशेः जागरण ।
खं सं कर्म विशिष्टं स्विताः जिरोनाभ्धोदेशः ॥ (प्रदशाराहदयमय-33)

The importance of diet is a prime factor for the drug to act effectively in each case. Over exertion as well as over resting have to be avoided. Normal exercise has to be kept alive so that the diet taken has to be digested and along with the drug gets assimilated in the system of a living being.

Each धातु nourishes the other and in the process undergoes transformation. The last धातु शुक्र is produced in a month’s period. The essence of all these धातुs is named as ोजस्. 

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86. रक्तस्यमेकस्यस्मिनाभ्यां वृद्धिभूतममहाकालिनि ।
भरणोपयोगकरणात् तस्य ते धातवः, चिरातः । ।
सम्प्रस्तावं उपाय धातुं सार अनेक इति चिरितः ।
तद्वाभिन्नवनस्यधर्मं स्वस्वमालित्रुष्ठ ।
सचारुहुद्धरस्य व्यान्तिस्य सरोरस्वरूपः ।
कुल्यास्तिकः केदारः धातुरूपविनिपतिः ।
धातुहासाः कले परिवागम धातवं सदा यान्ति ।
एवं चतो धातु शुक्र मासेन संबत्थित ॥ - प्रदशाराहदयमय-मातिकासिद्धा - 70-73, P.V. Sharma p-176.
रस is known as ‘chyle’ in English which means ‘a milky fluid formed from chyme by pancreatic juice and bile.’\footnote{Concise Oxford Dictionary, New Edition, p.140.} ब्यनवायु pumps this रस from ह्रद्य in channels or स्रोतम् to nourish the remaining धातुं. शुष्क which is the last धातु is supposed to take shape in a month’s time after undergoing transformation through proper nourishment. शुष्क is not manifested in childhood. It has no capacity to flow in old age.

**Surgery:**

It is an established fact that Surgical Science is known as a distinct branch of Medicine in Āyurveda.

The practical part of the subject of surgery is preceded by a few general remarks, in which, amidst many erroneous notions, we trace some justness of classification, and soundness of principle. “Living bodies are composed,” it is said -

स्वभावमीख्यं कालं यदुक्ष्मं नियति तथा ।
परिणामं च मन्यन्ते प्रकृति पदुदशिनिः ॥
तमायायेव भूतानि तदुपमायेव चायपिष्ठः ।
तैत्तत्तल्क्षणं कृत्सो भूतप्रामो व्यन्यात ॥ -युक्तसंहिता-श.1.11-12.

“of the five elements, with action or life super added: they are produced from vapour, vegetation, incubation, and parturition, as insects, plants, birds, fishes, reptiles, and animals. Āyurveda considers vegetable bodies as endowed with life. Of animals, man is the chief, and in proportion to his complicated structure is liable to disease. The disorders of the human frame are of four kinds – accidental, organic, intellectual, and natural. The injuries arising from external causes form the first class. The second comprehends the effects of the vitiated humours, or derangements of the blood, bile, wind, and phlegm. The third class is occasioned by the
operation of the passions, or the effects on the constitution of rage, fear, sorrow, joy, and others; and the last is referable to the necessary and innate condition of our being, as thirst, hunger, sleep, old age, and decay.

"The judicious alleviation of human infirmities, the means of which were compassionately revealed by the gods, can only be effected by the knowledge that is to be gained from both the study and practice. He who is only versed in books will be alarmed and confused, like a coward in the field of battle, when he is called upon to encounter active disease. He who rashly engages in practice, without previous conversancy with written science, will be entitled to no respect from mankind, and merits punishment from the king. Those men who, in ignorance of the structure of the human frame, venture to make it the subject of their experiments, are the losers of their species. He alone, who is endowed with both theory and experience, proceeds with safety and stability, like a chariot on two wheels." It is much to be regretted that these aphorisms have so little influence on Ayurveda practitioners.

The instrumental part of medical treatment was, according to the best authorities, of eight kinds - चेदन (Chedana), cutting or scission; भेदन (Bhedana), division or excision; लेखन (Lekhana), which means drawing lines. व्याधन (Vyādhana), puncturing; एष्या (Eshya), probing, or sounding; आहर्य (Ahārya), extraction of solid bodies, विस्रवण (Visrāvaṇa), extraction of fluids, including venesection; and सेवन (Sevana), or sewing; and the mechanical means, by which these operations were performed, seem to have been sufficiently numerous. Of these, the principal are the following:

यन्त्र (Yantras), properly machines, in the present case instruments; but to distinguish them from the next class, to which that title more particularly applies, we may call them implements; शस्त्र (Śastras), weapons, or instruments; क्षार (Kshāra), alkaline solutions, or caustics; अग्नि (Agni), fire, the actual cautery; शलाका (Śalāka), pins, or tents; स्रिंग (Śringa), horns, the horns of animals open at the extremities, and as
well as अलाबू (Alābū), or gourds, used as our cupping glasses; the removal of the atmospheric pressure through the first being effected by suction, and in the second by rarifying the air by the application of a lamp. The next subsidiary means are जलाउकास् (Jalaukā), or leeches.

Besides these, we have thread, leaves, bandages, pledgets, heated metallic plates for erubescents, and a variety of astringent or emollient applications. The enumeration is tolerably full, and the details are curious, if not instructive.

A few instruments, and some of neat and ingenious fabric, are in the hands of native operators, particularly those for depressing cataracts; but they are not very common.

We can only therefore conjecture what the instruments might have been, by adding to the imperfect description given of them the purport of their names, and the objects to which they were applied.

The Yantras, or implements, known to Suśruta (I, Ch.7) were one hundred and one, and were classed as Svāstikas, Sandansas, Tālayantras, Nādiyantras, Śalākās and Upayantras.

The Svāstikas are twenty four in number - they are metallic, usually eighteen inches long, having heads or points fancifully shaped like the heads of animals, the beaks of birds, etc. They are secured with small pins, and are curved or hooked at the points, and are used to extrac-
splinters of bone or foreign bodies lodged in the bones - they were, therefore, pincers, nippers, or forceps.

The Sandansās, which in usual import mean tongs, were of that description. There were in the time of Suśruta but two sorts, one with and the other without a ligature or noose (Nigraha?) attached. They were smaller than the preceding, being sixteen inches in length; and were used to remove extraneous substances from the soft parts, as the flesh, skin, vessels. The work of Vāgbhaṭa adds another sort, only six inches long, which were employed preferably for the soft parts and for fleshy excrescences.

The Tālayantras must have been something of the same kind, only smaller, their length being but twelve inches. They were but two, and were employed to remove foreign matters lodged in the outer canals, as the ears.

The Nādiyantras were, as the name implies, tubular instruments. There were twenty sorts, varying in size and shape according to their intended use. They were employed for removing extraneous bodies from deep seated canals, as the intestines, urethra. For examining affections of parts similarly removed from inspection; for the introduction of other instruments, so as to enable them to be applied; and for drawing off fluids by suction. The work of Vāgbhaṭa specifies the number of perforations in each of these tubes, as they varied in this respect as well as others: the descriptions are, however, very indistinct, and we can only conclude generally, that they bore an analogy to our catheters, syringes, etc.

The Šalākās were hollow round rods. They were of twenty-eight kinds, varying in size and shape, for extracting foreign matters, lodged in parts of difficult access; for cleansing or clearing internal canals, especially the urethra; for applying collyria, caustic solutions, and the actual cautery; and for eradicating nasal polypi, the complaint called Nakra so common and so troublesome in India, and to be alleviated by no other means than the forcible extraction of the irritating excrescence.
The *Upayantras* were, as their appellation signifies, merely accessory implements, such as twine, leather, bark, skin cloth. The first, best, and most important of all implements, however, is declared to be the hand. *Sastras*, the instruments, of which twenty different sorts are enumerated as under:

विसातिं शास्त्राणि, तथाया-मण्डलाम् करपत्रं वृद्धिप्रपत्रं नवशस्त्रमुद्रिकोत्सपत्रं..... ||
यदा सुफलितं शस्त्रं रोमच्छेदिः सुसंस्थितम् ||
सुगुहीतं प्रमाणेन तदा कर्मसं योजयेत् || सुभृतसंहिता-सुत्रस्थानं-8.3-14.

They were of metal, and always bright, handsome, polished, and sharp; sufficiently so indeed to divide a hair longitudinally. Vāgbhaṭa however, adds, they were in general not above six inches in length, and that the blade formed about a half or quarter of that length.

Thus the different kinds of scission, longitudinal, transverse, inverted, and circular, are directed to be practised on flowers, bulbs, and gourds. Incision on skins, or bladders, filled with paste and mire; - scarification on the fresh hides of animals from which the hair has not been removed; - puncturing, or lancing, on the hollow stalks of plants, or the vessels of dead animals; - extraction on the cavities of the same, or fruits with many large seeds, as the Jack and Bel; - sutures, on skin and leather, and ligatures and bandages on well-made models of the human limbs. The employment of leather, skin, and even of dead carcases, thus enjoined, proves an exemption from notions of impurity. Of course, their use implies the absence of any objections to the similar employment of human subjects. Although they are not specified, they may possibly be implied, in the general direction which Suśruta gives, that the teacher shall seek to perfect his pupil by the application of all expedients which he may think calculated to effect his proficiency.