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THE HISTORY OF ARYAN MEDICAL SCIENCE

from
ITS EARLIEST DATE TO THE PRESENT TIME.

The history of the Aryan Medicine forms an inseparable chapter of the history of the Aryan Civilization. The word 'Aryan' is of late given a very wide and comprehensive sense, though strictly speaking it has been, up to date, used to differentiate the Hindus to whom alone it is applied both in common parlance and in their sacred books. Western ethnologists believe that the ancestors of the Celts, Germans, Slavonians, Greeks, Italians, Persians and Hindus were first living together in the Caucasus; but afterwards separated, the Hindus then emigrated into India where, after conquering the aboriginal tribes they settled with their families.

This theory is European in its conception and is not accepted by the Indians in general who call themselves autochthonous. They adduce internal and external evidence to show that, far from being out-
siders, it was possible for the early Hindus to have sent colonies beyond their frontiers and con-quer the outlying countries by force of arms. The European theory is based upon inferences which are believed to be false and untenable by the Indian Savants. The subject requires to be thoroughly exam-ined and investigated before any one-sided conclu-sion is accepted as correct.

The Hindus' call their country "Ārya-Varta" or the abode of the Aryans. It is also called "Brahma-Varta", or the original habitation of the descen-dants of Brahma or the Creator, meaning thereby that it was the cradle of humanity. Man, the ancient law-giver, applies the name to the tract or land be-tween the Himalaya and the Vindhyā ranges, from the easter-n to the western sea, recommending at the same time that the Brahmans born within that tract are suitable teachers of the several usages of men. Lat-terly the whole country from the Himalayas to Cape Comorin, and from the Irawadi and the Bay of Bengal to the Indus and the Western sea came to be recog-nised as the "Ārya-Varta". It is a beautiful country with natural boundaries. It enjoys' the six seasons of the year, and the position of its mountains and the seas, gives it a variety of climate in as much as it possesses the hottest, coolest and the most
temperate places of resort. The country was a cradle of learning for the whole world, and history bears witness to the fact that many a nation that now walks with its head erect would have been nowhere had it not borrowed considerably from the intellectual storehouse of the ancient Hindoos. This country was at the pinnacle of glory when other nations were either not in existence or wallowing in gross ignorance. Most of the sciences of which the present century boasts so much were not unknown to the ancient Hindoos; and one has but to look into their writings to see whether the truths propounded by them some thousands of years ago do not still endure in their natural freshness.

The Hindoos were the first to cultivate the Astronomical Science (Jyotish). All modern astronomers admit the great antiquity of their observations. Cassini, Bailly and Playfair have stated that observations taken by Hindoo Astronomers, upwards of 3000 years before Christ, are still extant, and prove a considerable degree of progress already made at that period. The ancient Hindoos fixed the Calendar, observed and predicted the eclipses and were acquainted with the phases of the moon and motions of several planets. According to Mr Colebrooke they were more correct than Ptolemy in their
notions regarding the procession of the elements.

In Mathematics (Shānti) the Hindus had attained a high degree of proficiency. They invented the decimal system, the differential, integral and infinitesimal calculus. The world owes to them the invention of the numerical symbols. They also discovered Geometry (Bhumī) and Trigonometry (Tri-

gonīti) and brought them to a high state of cultivation. Most of the credit given to Pythagoras in the discovery of mathematical truths properly belongs to the ancient Hindus.

Their knowledge of Chemistry was not meagre. They were familiar with the preparation of sulphuric, nitric and muriatic acids, the oxides of copper, iron, lead, tin and zinc, and many chlorides, carbonate,s, nitrates and sulphates.

The sage Pāṇini was the first to teach the formative principles of words, and his system of Grammar called "Aṣṭādhyāyī", — the first in the world — is the admiration of Western and Eastern scholars. Lexicography was known long before its acquaintance was made by any other nation in the world. In the Vedic literature, it is treated under the head of Nīshadha.

Music appears to have been cultivated to the highest pitch of perfection by the Indian Aryans.
who were the first to invent the Tanit. The art is systematic and refined.

India is the home of architectural beauty. Domes, cupolas, minarets and many other ingenious works of architecture, which have boldly stood the tempest of time testify to this fact in silent eloquence: and the ancient Greeks who are praised for their skill in this particular art, owed not a little to the Hindoos. Dr. Muntzer supposes that Alexander the Great had left artists in India to copy the Indian style of architecture and they imported it into their mother country.

"Dhanur-Yad" is an old science which treats of the science of war, and mentions different kinds of weapons classified under four heads: (1) Mukta (missile) as discus &c. (2) Anukta (non-missile) as sword &c. (3) Mukta-mukta (both missile and non-missile) as javelin &c. (4) Yantra-mukta (machine-projectile) as arrow &c. The army consisted of Infantry, Cavalry, Car-fighters and warriors fighting on elephants. They were known by the names of Padāti, Ashvāruda, Rathāruda and Jāñārūda respectively. The Hindoos have from a primeval period a fighting class called the Kshatriyas.

Hindoos Law is as old as their religion. Manu is the oldest of Hindoo writers on Law, and his book of
Institute still forms the basis of the Hindu social fabric. It is an important record of Hindu society at least three thousand years old. Other writers on law like Yajnavalkya, Parashar, and others are also held in high reverence and are quoted as high authorities in deciding subtle points of dispute.

India outdistances all the countries in the world in the domain of philosophy. There are six systems of Indian philosophy called "Darshana" or "sources of knowledge." These are Nyaya or logical; Sankhya or discriminative; Vaisheshika or atomic, Jiva or contemplative, Mimansa or ritual and Yoga or the art of Knowledge. The aim of object of these schools is to solve the problem of creation. The Hindus have a passion for philosophy and have given their best energies to the better understanding of the subject. They are the first nation to distinguish between matter and spirit. While the world at large is busy confining its attention to dead matter and its properties, the Hindu from the very dawn of history, has devoted himself staunchly to the study of the spirit.

Professor Max Miller justly observes that the Indian Aryan lives this life with a full consciousness of his being a temporary sojourner who has no
permanent interest whatever is the things of this world. Being given to spiritual pursuits rather than to earthly comforts he is by nature better fitted to solve the problem of existence which puzzles many a thinker and metaphysician of our age.

All these branches of learning take their origin from the book of religion called the Vedas — knowledge — from Sanskrit Veda, Latin Videre, to know. This the Indians believe to be the knowledge of the Universal Spirit as distinguished from the knowledge of an individual mortal. The Indian Aryans believe that the creation has a Maker who is eternal and is without a cause, and as He has evolved the Universe out of His inner consciousness He is a knowing Being and being knowing and eternal is all happiness which knows no diminution. The Veda is supposed to be His revealed knowledge, knowledge, they believe, is acquired and not created. If knowledge could be created, instruction, they argue would, as a rule, become futile. From time immemorial it is being handed down from father to son, — from preceptor to disciple. The Indians therefore trace all knowledge under the sun from the Supreme High who is the fountain head of learning. — 'Mahatma sarva vidyam' (Major Ved).
i.e. Lord of all kinds of knowledge, the source from which all knowledge flows. So they will never accept a statement unless it is supported by the testimony of what has been revealed to them in their Scriptures, or, for the matter of that by the testimony of bygone ages. In this matter their line of investigation essentially differs from that followed by the modern investigators who are solely guided by their intelligence in establishing a truth which must remain under trial until the science in its progressive course has reached its goal.

The Vedas are four in number viz.:— Rig Veda, Yajur Veda, Sama Veda, and Atharva Veda. We will not pause to discuss the various points by which the Archanae, who are the custodians of the sacred lore of India, try to establish the eternity of their inspired writings. Suffice it to say, that in computing time by regular divisions and assigning dates to events of antiquity, the ideas of the Eastern and the Western people widely differ. Some Western scientists assert that man did not exist on the surface of the earth prior to 3,000 B.C.; while in Indian cosmogony, deeds are recorded of persons said to have flourished in the previous Yugas or cycles of time thus divided:
Krīta Yuga lasts for 1,723,000 years.
Trīśa Yuga lasts for 1,230,000 years.
Dvārapāla Yuga lasts for 364,000 years.
Kali Yuga lasts for 430,000 years.

The Kali Yuga is the present age of the world, and is said to have begun on Friday, the 15th February 3000 B.C. These cycles go on revolving like the wheel on its axle, and bear some resemblance to the golden, silver, bronzem and iron ages of the Greeks. Even the European Chronologists who, according to the Hittitee are always disposed to minimize events, admit that the Vedas must have been composed about 4000 years ago; and, it has not been shown that a particular writing was extant at a time when the Vedas were not in existence. This, at any rate, makes the Vedas older than any other writing on the surface of the earth. In the works of Mann and Panini, who, according to the Western Orientalists flourished in B.C. 300 (Wilson) and B.C. 600 (Goldstucker) respectively, the Vedas are described as eternal (اسدی). Thus, in point of antiquity the Vedas stand pre-eminent in the first. Some European scholars have attempted to translate portions of the Hindu Scriptures, by the help of grammar and dictionary, and no wonder if they have succeeded in belittling the sublime ideas therein contained.
and failed to grasp the real meaning, for the true interpretation of an extremely old and esoteric work, taught and learnt by the initiates only, must be acquired from those who have from generations past studied it systematically with the help of the key they possess. Still, according to their own showing, the civilization of the Vedic period can compare favourably with the civilization of our modern times. The Vedic Aryan cultivated his land (vide Bri. Veda III. 1. which says: "Let the bullocks carry the load and the cultivators till the ground; let the plough cut up the earth well"); and lived in neat and handsome mansions. (vide Bri. Veda I. 2. "On Earth give us large and habitable palaces"). He wore neck ornaments and ear-rings. The patriarch considered it his sacred duty to be a warrior and he attended military classes for his education. He was protected by his armour (Fig. 7. 1.). Musicians were employed to chant hymns. Elephants were trained and horses were gorgeously caparisoned. Artisans were liberally patronised for their manufactures. Vaisnav Veda mentions weavers, sculptors, carpenters and other artisans, besides almost all the articles of manufacture generally used by a refined society. Women were richly dressed and held a high social position. The people had ad-
advanced in political condition, Krishna Yajur Veda (1.2-9) mentions Kings, Queens, Commanders-in-chief, Coach-drivers, Magistrates (Paráthyaksha), Village officers, Treasurers, Revenue Collectors (Bábara-maya), and other accessories of an established government. Honesty in mercantile transactions is referred to in Rig. III.8., wherein are also mentioned stone-built cities. Other references might be given representing the Vedic Aryan as well versed in war and politics, bright, clever, merciful, righteous and devoted to the protection of his family. Some Western Scholars hazard an opinion that the Vedic Aryans were not acquainted with the art of writing. But this statement is not supported by evidence. On the contrary, we meet both in the Rig Veda and the Yajur Veda, with such expressions as Hitihum (written), ksharbhuj (pen), vacham pashyan (seeing the words i.e. reading) and so forth. The religion and philosophy inculcated in the Veda, are acknowledged to be of the sublimest character. All this unmistakably proves that the Aryans were the most enlightened nation in pre-historic times. Such a state of civilization which exercises its potent influence on the Indian Society even to this date could not have been attained in one day. It must have required a long course of training and must
take the nation back to the remotest antiquity, when the state of civilization was so perfect and when all sorts of useful sciences were regularly studied, there should be no wonder if the science of medicine too, received its due share of attention. This science forms part of the Vedas, and is called "Ayur Veda" or the "Science of Life". It is based on the Vedas in so far as it relates to the knowledge of medicine, and on the Atharva Veda in so far as it relates to the surgical operations. Though an "Upani Veda" or Supplemental Veda, the science is considered to be co-existent with the "First Teacher" who is the "primary cause" of the whole Universe. The science has passed through various vicissitudes. It will therefore be out of place, to trace its origin and development as succinctly as possible.

As has been stated above, the Hindus believe that like all their sciences, the science of medicine, has been revealed to them. Vajur Veda Chapter 7, speaks of God as "prathano Dvivdo bhisham"—the "First Divine Physician", "who drives away all diseases". Another Vedic verse addresses Him as "Bhishaktanam tvam bhishajan shramoi" which means "I hear Thou art the best among physicians". Elsewhere He is styled, "the depository of all sciences and Physician for all worldly ills". Brahma, or the
First member of the Hindoo triad, was the first to
propound the Healing Art. He composed the Ayur Veda,
consisting of one hundred sections (adhyayas) of
one hundred stanzas (shlokas) each. This sacred med-
ical work treats of the subject of life, describes
the conditions tending to prolong or shorten life,
dwells on the nature of diseases, their causes, and
methods of treatment. It is the oldest medical book
of the Hindoo, and is divided into eight parts or
Lahiträ. These are:

1. Chātra — Surgery. It includes the methods of
removing foreign bodies, of using surgical
instruments, of applying bandages, art of
treating various surgical diseases.

2. Chālāvya — Treatment of diseases of parts
situated above the clavicles, such as the
diseases of the eyes, nose, mouth, ears
et.

3. Kāśā-Chāhita — General diseases affecting
the whole body — practice of physic — such
as fever, mania, diabetes &c.

4. Bhuta-VIDRĀ — Demoniacal diseases. This chap-
ter describes the means of restoring deranged
facilities of the mind, supposed to be pro-
duced by demoniacal possessions, as by prayer,
offerings, medicines &c.
1. **Kumarabhrita** — Management of children — comprising the treatment of infants and the diseases they are subject to.

2. **Ayadha** — Antidotes for poisons — mineral, vegetable and animal.

3. **Rasayana** — Treats of medicines: preserving vigour, restoring youth, improving memory and curing and preventing diseases in general.

4. **Kālikaram** — Describes the means of increasing the virile power by giving tone to the weakened organs of generation.

Brahma taught Ayur Veda to Dattaprajāpati who in turn taught it to Ashwini Kumārs — "the twin sons of the Sun". The twin-brothers wrote important works on medicine and surgery and were the divine physicians. Many hymns in the Rig Veda are addressed to these twin-gods, from which it appears that not only were medicine and surgery fully appreciated by the ancients, but were held in high esteem by them. Some of the wonderful operations performed by them are also recorded. A legend in the Rig Veda thus describes their skill. A certain sage named Daityanai had learnt the science of Brahmi-Vidya from Indra under an interdiction not to teach it to any one else, the preceptor threatening to cut off his pupil's head in case of any infringement of the
compact. The Ashvins anxious to learn the science from that sage hit upon the following plan. They, by undertaking to preserve him from the wrath of Indra, prevailed on the sage to communicate his knowledge to them. Then, with his consent, they took off his head, replaced it skilfully with that of a horse, and acquired the wished-for knowledge. Indra, when he came to know how the twin-brothers had managed to gain their object struck off the sage's equine head. The Ashvins, being exceedingly proficient in surgery, re-joined the original head that had been carefully preserved. The feat excited universal approbation. But some of the fastidious gods took exception to the mode of learning adopted by the Ashvins. The cutting of one's preceptor's head, though with the best of intentions, was denounced as an atrocious act, and as a consequence, the Ashvins were outcasted by the gods for the unpardonable sin, and refused admittance to their share in sacrificial rites. The brothers then had recourse to a sage named Chyavana, who, though very old and decrepit, had newly married Sukanyā, a young and lovely daughter of King Sarayati. The physicians prescribed him an electuary which soon divested him of his decrepitude, restored him his health, youth and beauty, and prolonged his life. ([Fig.1.117,13).
The recipe is still known by the name of "Devayan Ayurveda". The sage, out of gratitude, promised the Ashvins to intercede on their behalf and to secure to them the continuance of the libation of soma at the sacrifices. He induced his father-in-law, King Saravan, to perform a sacrifice. When the time for distributing the libation arrived, Dayan offered to the Ashvins the share due to them. Indra took alarm at it and was going to hurl his thunderbolt at the sage's hand, when, somehow or other, his arm got paralyzed. The Ashvins are said to have cured Indra of his paralysis and by diet of their wild and knowledge soon got themselves re-admitted into caste and obtained their usual share of sacrificial food. These physicians are also given credit for joining again the head of Vajna, son of Sushila, which was severed by Indra. These episodes mark a triumph of professional skill even at an early date. In the ancient Sanskrit writings we often read of battles between the Devatas and Asuras. In cases of broken legs the surgeons used to substitute "iron-legs" — Arasim-jaarhaka — (vide Rig Veda I. 113-15) and to furnish artificial eyes in place of those plucked out (Rig Veda I. 113-15); arrows lodged in the bodies of the warriors were skillfully extracted and their wounds promptly dress-
si by the army surgeons. The Áśvins are reputed to have given new teeth to Poonsha, new eyes to Bhagydeva and cured Sandramas of consumption. These and many other wonderful cures effected by them raised them, not only in the estimation of their compatriots, but of the lord Indra, who became desirous of examining the Ayur Veda and learnt it from them.

Indra taught the science to his pupil Átreya, who wrote several works bearing his name, among which might be mentioned his "Átreya Samhitā" in five parts containing 16,000 verses in all. Átreya is one of the oldest authorities on Hindu medicine and several later writers have based their treatises on his work. He imparted his knowledge, among others, to Agnivesha, Bheda, Jñatukarna, Parāshara, Kshirapāli, and Yārita, all of whom have distinguished themselves as authors of medical works that have been handed down to posterity. Agnivesha's "Mānja-pāli" or treatise on Diagnosis is still admired. "Yārīta Samhitā" is a standard book which appears to have been dictated by Átreya in reply to Yārīta's questions; for each chapter ends with the words "Said by Átreya in answer to Yārīta." Some are led to believe that "Átreya Samhitā" and "Yārīta Samhitā" are identical. This does not seem to be correct. For the well-known author of "Bhavaprakāsha" quotes
Several verses from Arihant which are not found in Harita.

Once upon a time some distinguished sages happened to meet on the Himalaya mountains, among them being Bharadvaja, Pulastya, Agasti, Asita, Parasara, Vasishtha, Parita, Gautama, الثالا, Maibhrasa, Chyavana, Yamaditya, Garga, Kashyapa, Parita, Yamadeva, Kartandya, Kapilajala, Naliniya, Chandilya, Shukuneya, Shannaka, Ashvalayana, Sakritya, Vishvanitra, Parashaha, Devala, Tulaya, Dhanaaya, Kanya, Katayana, Shankaya, Vajjepaya, Kashika, Kalarayana, Kirayaksha, Langashhi, Charaluna, Jothila, Vaittanas, Balkhyra and many others. All of them were well versed in philosophy and religious austerities. The subject of their conversation was the "ills that flesh is heir to". They began to complain — "Our body, which is the means of attaining the four aims of life, viz: virtue, worldly pursuits, pleasure and liberation, is subject to diseases which enslave and weaken it, deprive the senses of their functions and cause extreme pain. These diseases are great impediments to our worldly affairs and bring on premature death. In the "case" of such enemies how can men be happy? It is necessary to "all penalties for such diseases". They turned to sage Bharadvaja, and thus addressed him:
"Oh! sage, thou art the fittest person among us. Go thou to the thousand-eyed Indra who has systematically studied the Ayur Veda, and by acquiring from him the knowledge of that science free us, oh! sage, from the source of diseases."

"So be it". Said the sage, who at once went to Indra and thus accosted him:

"Oh! Lord, I have been deputed here by the parliament of sages to learn from you the remedies for the direful diseases that afflict mankind. I pray you therefore to teach me the Ayur Veda".

Indra was pleased with the object of his mission and taught him the Ayur Veda in all its parts. Charadvaja related the precepts he had acquired to the other sages who had deputed him, and with the knowledge of the science, they were able to live long in health and happiness. (Charaka).

Perhaps no history of the earliest writers of medicine in India will be complete without a mention of Charaka and Sushruta who are considered by the natives to be the highest authorities in all medical matters. Charaka is said to be an incarnation of Shesha — the Serpent-god with a thousand heads — who is supposed to be the depository of all sciences, especially of medicine. It may be parenthetically noted here that the Serpent, in all ages,
has received divine honours, and from the remotest antiquity, has been held in the greatest veneration as an emblem of wisdom and immortality by the Egyptians, Greeks and other ancient nations in concert with the Hindoos. "Serpents were sacred to Esculapius, the Grecian god of the medical art, because they were symbols of renovation, and were believed to have the power of discovering healing herbs". (Dr. Smith). The hierophants of Egypt styled themselves the "sons of the Serpent-god", as the serpent was the emblem of wisdom and eternity.

Ophiude-worship was prevalent among the Jews 2000 years B.C. The fifth day of the month of "Haravana" (which falls in the rainy season) is, even to this day, held by the Hindoos as sacred to the serpent which is worshipped either alive or in pictures by every mistress of a family, for it is believed that leprosy, ophthalmia and childlessness are the punishment of those who in former or in present life may have killed a snake and to be relieved of these the worship of the serpent is enjoined.

Charaka, the son of Vishudha, a learned Mani, flourished during the Vedic period. Some believe him to have been born at Benares, 320 years B.C. He was the greatest physician of his day and his "Charaka Samhita" is still held to be a standard...
work on Medicine.

Sushruta, on the other hand, writes more on Surgery than on Medicine. His work "Sushruta" is therefore held in high esteem, by native Zaidas, as an authority on Surgery. Both the works are commentaries of the "Achar Veda." Sushruta, was a son of Vishvamitra, a contemporary of Rama. With his father's permission, Sushruta and his seven brothers went to Devodasa, king of Benares, to study the Medical science. As Charaka, is believed to be an incarnation of the Serpent-god, so is Devodasa believed to be an incarnation of Dhaavantari, the divine physician, recovered from the ocean along with thirteen other "Zaidas" (gods) which had been lost in the Deluge. Dhaavantari, is said to have come out of the ocean with a cup of "Arurita" or the beverage of immortality, and takes in India the place occupied by Esculapius amongst the Greeks.

Hinging learnt "Achar Veda" from Devodasa or Kishirája, as he is otherwise called, Sushruta and his companions returned home and wrote independent works on medicine and surgery. But Sushruta excelled them all. His work was translated into Arabic before the end of the 8th century A.D. It has been translated into Latin by Kepler, and into German by Villers. Charaka was also translated from Sanskrit into
Arabic in the beginning of the 8th century and "his name repeatedly occurs in the Latin translations of Avicenna, Razes, and "Crepis" (Milers). He was posterior to Agavvesha, for he states that he received the materials for his book from that learned sage whose work he re-nast.

The next authority on Hindee Medicine is Vagabhatla, who flourished about the second century before Christ. He was an inhabitant of Sindh in Western India. In his work called "Ashanta-hridaya" he acknowledges the assistance derived from the writings of Charata, Gashrata, Agivesha, Bhela and others that had gone before him. He has also written another work called "Ashanta-Gangraha" on which Paddit Arunadatta has written a commentary. Vagabhatla's style is very clear and concise and throws much light on several obscure passages in his predecessors' works. A popular couplet describes Vagabhatla, Gashrata and Atri as the three great medical authorities for the three Yugas — Kali, Drapar and Krita respectively. Among the students of Hindee Medicine, the three writers are known by the name of "Traidha Traxi" or the "Old Triad," coming nearer to our own period we meet with the name of Mādhava or Mādhavachar, who has written some excellent works embracing almost all branches of Hindee.
learning. He was born in Kishkindha, now called Colombo, in Southern India. He was Prime Minister to Raja Vera Bukka of Vijayanagar, in the 12th century. He was a brother of Sagana, the author of the great commentary on the Rig-Veda, to which work Madhava is said to have contributed. Besides the "Sirya-jarashana-sangraha" or dissertation on the six schools of Hindu philosophy, his scholia on the four Vedas, styled "Madhava-Vadgita-Bhagasha" his "Pancha-dashi" (on Vedantic philosophy), "Madhava-Vilaha" (on Grammar), "Madhava-Nidana" (on Medicine), "Kala-Madhava" (on Astrology), "Jayashara Madhava" (on Hindu Law), "Ashara Madhava" (on the usages of the Brahmans), and "Chankara-Divijaya" (Life of Shankaracharya) are some of his numerous works. In his medical work our author dwells exclusively on diagnosis of diseases. He has treated the subject so well, that his authority on this branch of the medical science, is held to be indisputable. The native doctors are often heard to repeat this Sanskrit stanza:

Midasa Madhava Shreshthas,
Sutrasthana tu Vagbhattas;
Sharire Sushrutas prastash,
Charakas tu chikitsara.

It means "Madhava is unrivalled in Diagnosis,"
Vajbhata in "Principles and Practice of Medicine; Sushruta in Surgery, and Charaka in Therapeutics". In his old age Madhava became an ascetic and assumed the name of "Vidaryaka" (Forest of Learning).

The next celebrated writer on Hindu medicine is Bhava Misher, author of "Bhava Tarkanlasha". This physician lived in 1600 A.D. and was considered to be the best scholar of his time in Madra Pasha (in the North-West of India), "a jewel of physicians and master of the Shastras". In his work he summarises the practice of all the best previous writers on medicine. The clearness of his style and the excellence of his arrangement have thrown a flood of light on many obscure and disputed passages of the ancient writers and his important compilation marks the first revival of Ayur-Vedic literature among the Hindus. The work is highly esteemed by the native doctors in all parts of India, as an invaluable treatise on Hindu medical science. It is a treasure of useful information gleaned from the vast "field of medical literature of the past. In the time of Bhava Misher, India had commenced to come into contact with some of the European nations, notably the Portuguese. These foreigners were attracted to India by commercial pursuits. A syphilitic disease, in which heads and
feet are affected, was common among the Portuguese. Bhava Mishra treats of the disease at length under the name of "Firanja Raga" i.e. Portuguese disease. The absence of a corresponding Sanskrit term and the name ("Firanja Raga") given to the disease would suggest that it was introduced into India by the Portuguese. Bhava Mishra describes three stages of the disease, namely, Bhava (external), Abhavantara (internal), and Sahirantara (external-internal); the first is curable; the second, which is located in the joints, is cured with difficulty; while the disease in its third stage, when it spreads both externally and internally, is pronounced as altogether incurable. One afflicted with the malady becomes lean and weak, his nose sinks down, his gastric fire becomes dim and his bones turn dry and crooked. Mercury, calamus, pilanthus oleracia, and honey in certain proportion, are recommended as a remedy. Other recipes are also given. Bhava Mishra was the first to make mention of certain medicinal drugs of countries other than India. For instance, he mentions "Pārasika Yasha", i.e. Acorus Calamus of Persia; "Khorasāni Yasha", i.e. Acorus Calamus of Khorasan; "Salemāni Kharjara", i.e. date fruit of Calamaria; "Bataakshān Jaspīsī", i.e. "Amrita" fruit of Badakshān. Bhava Mishra was an inhabitant of Benares, where he
is said to have had 'five hundred' pupils.

Then followed Shāruddhara, son of Dāmoda, who wrote a useful treatise bearing his name. The work is divided into 25 chapters and is very popular in Western India. Smaller works, like "Śānta Tattava" by Lalitabha (A.D. 1382), "Śwāttana" by Bhatta Dronaprav, son of Bhattac Makh (A.D. 1387), "Bopaśyā Tattaka" by Bopaśyā, son of Keshava, "Vallabha" by Gisti (A.D. 1377), "Śānta Sannātā" by Chakrattāta, "Śāntaśārāj" by Viśāpati and others are frequently consulted by the native practitioners.

The Hindus hesitate to give any system the name of science or shastra if it does not directly or indirectly lead to a correct knowledge of the cosmos, and to the attainment of beatitude and deliverance from all pain and misery. The ultimate object of the medical science is therefore stated to be to gain that knowledge which consists in discriminating the principles of the material world from the cognitive principle, the immortal soul. According to their doctrine the whole creation is the result of coming together of "Purusha" (spirit) and "Prārtiti" (matter). The spirit is infinite, immortal, sentient and blissful. Matter is lifeless but possesses a creative force and properties of
goodness, passion and apathy. Some say that matter has no separate existence at all. It is only a manifestation of spirit and what is known by the name of the material world is only a series of impressions of the spirit. Others maintain that matter though helpless without spirit is co-eternal with it and that when it comes into union with the spirit it becomes active and procreative. It is not intended to dwell at length on the details of this system. Suffice it to say that it recognises Man as a Microcosm, possessing parts corresponding to the globe and describes him to be made up of the following twenty-five principles ("tatvas"):

1. Prakriti or Nature, prime cause of all things, the universal material cause (prima matrix).
2. Budhi — Intelligence, the first step in the evolution of Prakriti.
3. Ahankara — Self-consciousness.
5. Shanda — Sound, rudiment of ether.
7. Roopa — Form, rudiment of fire.
10. Shrotra — Organ of hearing.
11. Ryak — Organ of touch.
15. Vak — Organ of speech.
17. Pad — Organ of locomotion.
18. Para — Organ of excretion.
20. Akasha — Ether.
21. Vayu — Air.

The "Parusha" or the soul, is the 26th principle which resides in the body. It is true, intelligent, endless, all pervading, blissful, immortal, calm, pure and one without a second. These principles are arranged "in order of their development". The human organism, and for the matter of that the whole creation, thus constituted by the combination of Parusha and Prakriti, is represented in the mystical works of the Hindoos by a figure formed by drawing a horizontal line across a perpendicular one with the ends turned round like arcs of a circle thus: — The four points of the cross represent in succession birth, life, death and
Immortality, while the circle, is the symbol of the eternal existence. Those who have studied the subject, are trying to read the esoteric meaning of the Christian Cross in this light. It is curious that the sign of the Cross, is to be found in almost all the religions of the world, ancient and modern. The Purusha is the instrumental cause of the universe, while Prakriti, is its material cause. Human body is therefore believed to be the result of the joint-operation of these two principles.

The creation is of two kinds, animate and inanimate.Animate creation, is again subdivided by the Hindoos into four classes, namely Udbhija (sprouting), as trees, plants etc.; Swadaja (produced from sweat or warmth of the earth), such as bugs, mosquitoes etc.; Andaaja (oviparous), as fowls and snakes; and Jaraju (Viviparous), as man and beasts. In the human structure the father represents Purusha and the mother Prakriti. When both are young and strong the offspring is healthy. A female is fit for conception when she is in her catamenial state, which lasts generally from the twelfth to about the fiftieth year. During the discharge of the menses, she is strictly prohibited from seeing her husband. She is required to sleep on a grass bed, to shed no tears, and to take no bath. She is not
to pare her nails and should neither run nor speak aloud. She should not apply oil or sandal to her body and take care not to expose herself to inclement weather. Any disregard of these rules is injurious to the offspring. If she cries during the monthly period the child will contract an eye-disease. The smearing of the body with oil will make the child leprous. If she sleeps during the day it becomes dull and sluggish. It becomes deaf if she hears a very big noise, and insane, if she speaks too loudly. The period for impregnation is the first sixteen days after the appearance of the menstes; of these, however, the first four days are not recommended. The best period for conception, is from the fifth to the sixteenth day. The conception takes place by the union of the fecundating fluid (Patas) of the male with the germ (Rajas) of the female. It is believed that should the conception be on even days, that is to say, on the sixth, eighth, tenth, or the twelfth day, the sex of the infant would be male; if it is on an odd day the sex will be female. Some are of opinion that a male child is formed when the mixture has a stronger element of semen; and when "Raja" or the female element predominates a female child is formed. If the semen virile is divided into two, by
the "local wind" twins result. The sex of the infant in the womb is determined by certain signs. In case of a male foetus, the form of the uterus is round; the right eye becomes larger than the left; the right mamma begins to secrete milk before the left; the right thigh becomes more plump; the countenance looks bright and cheerful; the woman desires food of "masculine" kind; and dreams of mangoes and water-lillies. In case of a female foetus the opposite are the signs and the form of the uterus is ovoid. Twins are diagnosed by a median depression along the abdomen. When the sides of the female become full and the belly protuberant, and when the form of the uterus is hemispherical the uterus is supposed to contain an impotent. Impotents are of five kinds, namely Asagy, Sugandhi, Kunhika, Arshaka, and Shanda. The last is absolutely impotent possessing no virile power whatever. The rest are relatively so, more or less.

It is particularly desired to gratify a woman during pregnancy with every thing she wishes. For in case her wishes are not granted there is a probability of the child becoming deformed and defective. She should be kept happy and contented and be asked to avoid disagreeable sights and excitement. She should wear white clothes and orna-
ments; should take easily digestible food; should neither remain hungry nor eat too much and should abstain from sexual enjoyment. She is required to avoid touching a dirty, ugly or defective woman and to avoid nasty smells. She is advised not to live in a lonely house or to have her bed very high. Of the several parts of the body the hair, beard, moustache, nails, teeth, arteries, veins, tendons and semen derive their origin from the father; while flesh, heart, blood, marrow, fat, liver, spleen and intestines owe their formation to the mother. The development of the body, its complexion, power and condition are the products of chyle, while knowledge, perception, life, happiness and misery are the functions that come into operation under the direct influence of the soul. The Hindu medical works, mention the possibility of a woman uniting with another woman in sexual embrace and begetting her a hopeless fetus. They also believe that a woman under certain conditions may become pregnant by the influence of dreaming and thus confirm their belief in such unnatural births as of serpents, scorpions and the like, in such a case both the woman and her production are looked upon as very sinful. Parturition generally takes place after nine calendar months when the fetus is fully devel-
The period of gestation sometimes extends to the tenth, eleventh or even the twelfth month in exceptional cases. The lying-in room should be clean and not less than eight cubits long and four cubits broad, with ventilators in the north or the east wall. Four old and experienced midwives should be at hand to render necessary assistance. They should be trustworthy, skilled in their work, obliging and have their nails cut close. When the time of delivery draws near, they should lubricate the genital tract with sweet oil, and one of the four should thus advise the woman in labour: "Lady, do bear down when you are inclined to do so, but not otherwise; strain gradually, and to the utmost of your power when the child reaches the orifice until it is expelled with the after birth". Utterly straining makes the child deformed, dumb, hunch-backed, asthmatic, consumptive or weak. In cases of complicated labour obstetric operations are recommended. If the child dies in utero the woman feels thirsty, suffers from hard breathing, languishes and gets insensible. Prompt measures should be taken to save the life of the woman. Harita recommends among other measures the use of a surgical instrument called "Ardha-chandra" with which the arms of the child should be amputated and taken out and then
the body. In cases of tedious labour a paste of a
drug called langali (gloriosa superba) is to be
applied over the hypogastrium to hasten delivery.
Those who are given to supernatural beliefs, draw a
double triangle interlaced, one triangle pointing
upward, the other pointing downward with certain
mystic letters written within. This figure
is drawn on a metal plate, is shown to the woman, in
birth-three add placed under her bed. It is said to
have the efficacy of hastening the delivery.

A woman in confinement should be most particular
about her regimen. She should take no "cooling
food", and be entirely free from bodily exertion,
co-habitation and anger. She should eat moderately
and continue the necessary fomentation. Dhaavantari
says that the woman's period of confinement is over
after a month and a half, though she should be
allowed to take rest for full three months. No
matter requires greater attention than the quality
of the mother's milk. Good milk mixes readily with
water, without changing colour, contains no fila-
ments, and is white, cool and not too thick. Milk
which when mixed with water floats on the surface
or sinks down, or which forms yellow spherules and
is sticky and astringent in taste is bad. A woman
can improve her milk by taking green gram gruel for
food and a decoction of Patel (Trichosanthes-Diosica), Nimu (Melia Azadirachta), Asana (Bridelea Fomentoso), Daru (Pinus Deodara), Palha (Cissampelos Shaora), Nurya (Sanseveira Zeylanica) Gaduchi (Rhuspora Cordifolia), Kalurphia (Pierchiza Kurroo) and dry ginger. If the employment of a wet-nurse be indispensable, she should be selected from the caste to which the mother belongs, she should be of middle age, of good disposition, always cheerful, secreting good and sufficient milk, and having a male child; exceedingly kind, obedient, contented, well-behaved and of good parentage: undecisifal and willing to treat the child as her own. It is prejudicial to the child's health to be suckled by a nurse who has pendulous mammae or is sullty, hungry, fatigued, diseased, tall, short, corpulent, thin, pregnant, feverish, careless about her diet, glutinous, mean, suffering from pain or of bad conduct. The medical works of the Hindoos refer to certain rites which are observed by some even now on the occasion of suckling the child for the first time. The mother has to be clean, well clad, and to sit facing the east. She then washes her right mamma and squeezes out some milk from it. The father or the priest then sprinkles a little water over the infant reciting.
an incantation, the mother or the nurse keeping her hand on the right breast all the time. The incanta-
tion is to this effect:—"O Child, let the Sea of
Milk fill the Kanne with milk for thee, and be
then strong and happy for ever. O lovely-faced lady
let thy child live long by sucking the nectar-like
milk, just as the gods are able to live for very
many years by drinking the beverage of immortality! The infant is then taken by the mother on her lap,
its head being kept towards the north, and then
nursed gently. Sushruta says that if some milk be
not thrown out as recommended above, the baby some-
times suffers from puking, cough and asthma. When
the mother has no milk and a wet-nurse is difficult
to procure, the child should be fed on cows' or goat's
milk. The child should always be handled gently. It
should not be disturbed in sleep, nor made to sleep
against its inclination. Jactation, bath, Anjan (certain
application to the eyes), soft cloth and
soft anointment are always good for infants. The
mother's milk may be thick, hot, acid, scant, salt or "soft". The last kind is the best and makes
the child strong, healthy and handsome. The other
kinds of milk are injurious to the child and cause
various diseases. A mother having scant milk, might
take with advantage milk mixed with black pepper
and long pepper, which would promote the secretion. Similarly powdered long pepper, dry ginger and Haritaki (Terminalia Bellirica) mixed with clarified butter and treacle, if taken in the form of an electuary will assist the sacrament considerably. Harita says that a preparation of dry ginger, long pepper, black pepper, the three myrobalans, Dhana (Coriandrum Sativum), Yavani, Shatavari (Asparagus Tournesolus), Vacha (Acorus Calamus), Brahmi (Hydrococcus Asiatica) and Bhangi given with honey to the infant will accelerate the power of speech and improve the voice. The memory and intelligence of the child can be greatly improved by giving it an electuary of Gaduchi (Trinospora Cordifolia), Anapavara (Achryanthes Aspera), Vidanga (Embelia Ribes), Shankhapushpi (Glitoria Ternatea), Vacha (Sweatflag), Harde (Chebulic Myrobalans), dry ginger, and Shatavari, with clarified butter.

Barren women are divided into five classes, and are known by the names of kakavandhy (crow-barren) who conceives only once in a lifetime like the crows, which are supposed to lay eggs only once; Anapatra, who is incapable of conceiving at all; Garbha-Sravi, who can conceive but always miscarries; Mrita-Vatya, whose offspring do not survive their birth; and Bhalakshaya, who is sterile on
account of physical weakness. All these, except the first, are capable of being cured under medical treatment.

In cases of tedious labour, the medical works of the Hindoos mention certain charms and incantations which are supposed to render the delivery easy. It is curious to note, that the use of charms, talismans and incantations as remedial measures in sickness, can be traced to almost all the nations on our globe.

This part of the description will be incomplete without a passing reference to the several rites performed by the Hindoos from conception to delivery and from the time of birth to the time of death. These rites are twenty-five in number but the principal ones are sixteen, called the sixteen Sanskars. Some of them are these: Garbhadhana, ceremony performed previous to conception, that is at the time when the husband meets his wife for the first time on her attaining maturity; Punsvana, a festival held on the wife's perceiving the first signs of pregnancy. It is generally performed in the third month; Anavalobhana, a rite performed to avert miscarriage; Simantonnavana, ceremony of parting the hair of an enceinte woman on her entering the fourth, sixth or eighth month of
gestation; Jata-Karna, ceremonies at birth, among others putting of ghee into the child's mouth with a golden spoon, before cutting the cord; Nama-Karna, naming the child on the eleventh, twelfth or any other auspicious day; Nashiramana, taking the child out of the house when three months old to see the moon in the third light fortnight; Suryani-Lokana, ceremony of showing the sun to the child when four months old; Annaprashana, ceremony of feeding the child with its first rice, in the sixth or eighth month; Karna-Vidha, ceremony of boring the child's ears, generally performed in odd months after birth; Chudakarana, rite of shaving the head save one lock called "Chuda" or crest in the first or third year and not later than the fifth year; Upanayana, investiture of the sacrificial thread, which falls from the left shoulder to the right hip, for a Brahman in the eighth and not later than the sixteenth year; for a Ashatriya in the eleventh and not later than the twenty-second year and for a Vaishya in the twelfth and not later than the twenty-fourth. This ceremony marks the commencement of student-life; Samvarlana, ceremony on the student's completion of his studies and return home after having passed thirty-six, eighteen or at least nine years in stage pupillari; Vivaha, marriage.
Besides those here enumerated, there are other ceremonies which are performed either daily, monthly, yearly or occasionally. The object of all of them being, more or less, the preservation of health both of body and mind. Any discomfort in the body is called a disease. The diseases are of four kinds, viz. Agantika (accidental), such as a fall or a cut; Sharira (physical), such as head-ache, fever, dysentery, cough co; Kanas (mental), i.e. insanity, fear, grief; Svabhavika (natural) as thirst, hunger, sleep. The entire freedom from these by the application of proper remedies is the avowed object of the medical science. The prevention of a disease is considered by the Hindoos to be of greater importance than its cure. Accordingly their medical works lay great stress on certain rules of conduct to be observed all the year round. As these precepts, enable us to peep into the principles of Hygiene, as understood by the ancients, it will be as well to give a short summary of them here.

The knowledge of the properties of the country one lives in, has attracted the first attention of the ancients. Countries are generally arranged into three classes, namely, Ahupā, Jangala and Mishra. Ahupā is a moist and marshy country, intersected by numerous rivers, lakes and mountains; and con-
taining swans, cranes, geese, harus, pigs, buffaloes, deer and other wild animals, as well as a variety of fruit and vegetables. In such a country paddy, sugarcane and plantain trees abound, and "phlegmatic" diseases and "affections of the wind" are very common. Jangala is a dry country, where water is scarce; where Shaku (Acasia Varnesiana), Kareera (Capparis Aphylla), Arka (Swallow-wort), Peelo (Salvadora indica) and jujube trees abound; where the fruits are exceedingly sweet and beasts like donkeys, bears and spotted deer are seen in great number. In such a country the diseases "of bile and blood" are frequent. Mishra is a country which has the advantages of Anupa and Jangala without their disadvantages. It is neither too moist nor too hot. Such a country is naturally the best as it promotes health and longevity. A change recommended to a patient, on the principle underlying the above classification, is supposed to hasten his recovery. A man suffering from a "phlegmatic disorder" might with advantage go to a Jangala country, just as one suffering from biliary complaints, might profit by resorting to an Anupa country. It is the duty of the physician to preserve the health of his patient by keeping the various humours in his body in equipoise, and a
knowledge of the climates is indispensable to him. After acquiring knowledge of the country, the Hindoos have got to attend to their personal duties in a prescribed manner. It is good for a healthy man to rise early in the morning, that is, about an hour before sun-rise, and remember Vishnoo, the preserving power of nature. For the obtainment of longevity the names of Ashvatthana, Bali, Vyasa, Hanumana, Vibhishana, Aripa, Parshurana and Hanuman, who are long-lived and are supposed to be still living, though ages have rolled by, are also recalled to memory. The first things he is to look at and touch after rising from bed, are curds, ghee (clarified butter), looking glass, Sarasava seeds, Malva (Aegle karmelos), Gorochana (a yellow pigment) and garlands of flowers. And if he desires a long life he is daily to see his face reflected in ghee. He then answers the call of nature with his head covered. Then he cleans his teeth by the application of a paste or a powder to remove the tartar. The substances generally used for the purpose, are powdered tobacco, salt or burnt betel-nut or some compound preparation of drugs, such as pepper, dry-ginger, Long pepper and Jibal (Xanthoxylum Phetsa). The most common tooth brush is a tender twig of Bayala (Acacia Arabica); but the medical works
recommending other twigs to which wonderful properties are ascribed. A brush of Arka twig gives strength: of Vata (Ficus indica) enhances splendour; Karanja (pongamia glabra) gives victory; Pipala (Ficus religiosa) gives wealth; jujube, good dinner; Mango health; Madamba (Nanella Gadamba) sharpens memory; Champaka (Michelia Champaca), improves the organs of speech and hearing; Jasmine averts bad dreams; Shirisha (Acasia Sirisa) promotes health and prosperity; Anapanaga (Aharvanthas Aspera) gives patience and thoughtfulness; Pomegranate and conessi bark improve bodily beauty; while a tooth brush of Gunja (Abrus Preatorius), Kata, Mintala, Brihadhara, Katiki (Pandanus Odoratissimus), date or cocoa tree makes a man "impure". Persons suffering from certain diseases are prohibited from using the tooth-brush. After cleaning the teeth, the tongue is polished by means of a scraper which may be of gold, silver or copper, or even of a split twig ten fingers long. Then the mouth is rinsed with cold water several times and the face washed. This process keeps the mouth free from disease. The washing of the mouth with cold water is a necessary adjuvant to remedies for aphthoe, pimples, dryness of and burning sensation in the mouth. Washing with lukewarm water removes phlegm and wind and keeps the mouth moist.
The nose is preserved from disease by pouring into it a few drops of rapeseed oil every day. This tends to keep the mouth sweet, improve the voice and prevent the hair turning grey. White antimony applied to the conjunctiva with a lead or zinc pencil is good for the eye. The application makes the eyes beautiful and enables them to discern the minutest things. Black antimony of the Sindhu mountain can be used even in its unrefined state. It removes the irritation, burning, hypersecretion of mucus and tears attended with pain in the eye, renders it beautiful and enables it to stand the glare and the wind. One who is fatigued, feverish, has kept his vigils or taken his meal, has to abstain from applying antimony to his eyes. The nails, beard and hair of the head are to be kept clean and trimmed and shaved every fifth day. This promotes strength, health, cleanliness and beauty. The hair in the nose should not be pulled out as doing so will impair the eye-sight. The head should be combed and the looking glass should be utilized as it tends to the improvement of the complexion and the prolongation of life. Regular exercise should be taken every day. It makes the body light and active, the limbs become strong and well-developed and the digestive fire increases so much that any
kind of food taken is soon digested. Physical exercise is the surest means of getting rid of sluggishness. It is always beneficial to those taking food rich in fats. It is most beneficial during the Spring. Exercise after dinner or sexual intercourse is injurious. It is not recommended for one suffering from asthma, consumption and chest disease. Over exertion is very bad while moderate exercise is desirable. There are various kinds of physical exercises, in-door and out-door, but some of the Hindus set aside a portion of their daily worship in making salutations to the sun by prostration. This method of adoration affords them so much muscular activity that it takes to some extent, the place of gymnastic exercise.

Perfumed oil is rubbed over the body especially over the head, ears and the soles of the feet. Medicated oils diminish fatigue, promote strength, happiness and sleep and improve the colour of the skin. They keep the skin soft and healthy and contribute to the prolongation of life. The anointing of the head with oil, prevents or helps to cure diseases of the scalp and assists the growth of the hair. Similarly the dropping of oil in the ear prevents ear-diseases. A certain vegetable juice should be put into the ear before eating, and
oil after sunse. Oil well rubbed into the soles of
the feet, strengthens the legs and prevents fissu-
suring of the skin. It also reduces sleep and
improves the vision. As the serpents never go near
an eagle, so it is said the diseases do not ap-
proach a person who is in the habit of taking
physical exercise and anointing his limbs with oil.
The whole body is satiated and energized if
anointed before bath. The use of the anointment is
deprecated in fresh cases of fevers, indigestion,
aemia, or vomiting. It is also to be avoided by
one who has taken a cathartic. Anointment is fol-
lowed by bathing. Every Hindu is required to bathe
at least once in a day. A bath after eating is
injurious. A cold water bath is a preventive of
blood-diseases. A hot water bath has an alterative
effect. The daily use of an emetic myrobalan bath
preserves the black colour of the hair and ensures
the life for a hundred years. Too hot a bath is
injurious to the eye. To reduce the temperature of a
hot bath it is directed that hot water should be ad-
ded to cold water, but that cold water should never
be added to hot water. An old physician named Harish
Chandra says, "O men, a warm bath, fresh milk, young
damsel and moderate use of fatty articles of food
are conducive to your health". Persons suffering
fromague, diarrhoea, eye diseases, ear affections, cold or dyspepsia should abstain from bathing. When the bath is over the body is carefully wiped with a towel and properly dressed. It may be noted, by the way, that the Hindoos as a rule never bathe in a nude state either at home or in the river. There is a religious interdiction against exposure of person (Manu IV.16). Good men are advised never to put on dirty clothes, as they cause irritation and other diseases of the skin and make them look disreputable. In cold weather saffron, sandal and black aloes are applied to the body; in summer a paste of sandal, camphor and andropogon maricatam is recommended, and in the rainy season the body may with advantage be smeared with a preparation of sandal, saffron and musk. Then the body should be decked with flowers and ornaments according to one's taste and means. Fragrant flowers and leaves beautify the body, excite amorous passion and drive away evil spirits. Gold is holy, auspicious and a giver of contentment. Precious stones possess the efficacy of averting evil eyes and evil influences of the planets as well as bad dreams and wicked intentions. Charaka says 'that after the purification of the body and before meals it is proper to devote some time to the worship of the Almighty.'
A man should take his meals twice a day — in the morning between 9 and 12 o'clock and in the evening between 7 and 10. The meals should not be taken in a public place, as it is said that eating, cohabiting and answering the calls of nature should always be done in private. Gold dinner service is the best from a medicinal point of view, and is supposed to be the best tonic for the eye. Eating out of Silver is equally efficacious in promoting hepatic functions. Zinc service improves the intelligence and improves the appetite. Wood served in brass utensils promotes wind and heat, but is good for curing phlegmatic disorders and in expelling worms. The use of Steel or Glass vessels cures jaundice, intumescence and chylorasis. Stone or City service drives away wealth. Wooden plates are good appetizers but help the secretion of phlegmatic humour. The use of certain leaves as plates acts as antidote against poison. When at dinner a water jug with a cup should be placed on the right hand. A copper vessel is the best for the purpose. The next best is an earthen pot. Vessels made of crystal and lapis lazuli are also pure and cooling. The various dishes are served one after another, in a prescribed order and are put in the places assigned to them. It is good to take a little rock-
salt and fresh ginger before entering the dining room as this is supposed to whet the appetite and clear the throat. Charaka says that one should not sit to dinner facing North. Macu's dictum on this point is somewhat different. He says that one desiring longevity should face the East while having his meal; one desirous of fame must face to the South; of wealth, towards the West and one desiring truth should sit looking towards the North (ll. 52). One passing flatus during meals is to leave off eating and not to take any food during the day. The name of "Sanumana, son of Anjanec" is mentioned to avert the influence of evil eyes and also the name of the Supreme Being who "is the fire residing in the bodies of living creatures, where, joined with the two spirits which are called Prana and Apana. He digests the food which they eat, which is of four kinds". (Chhavat Gita XV. 14). The four kinds of food above referred to, are:-(a) those to be masticated with the teeth, as bread, (b) those lapped in with the tongue as curry, (c) those sucked in with the lips as mango, and (d) those simply imbibed as liquids. The food placed before one is to be treated with divine respect, such treatment being conducive to health and strength (ll. 21. 55). Pomegranates, sugar cane and things
like that, should be eaten first and never at the end of dinner. Hard and butyrous substances should be eaten in the beginning; soft viands in the middle; and the liquids towards the end of the meal. Similarly, sweets are to be taken first; salt and acid things next; and pungent, bitter and astringent at the end. The dinner should be finished with a draught of milk or Shhas (whey) mixed with water. One should not hurry over his meals. Gormandism is to be avoided. Half the cavity of the stomach is to be filled with food; a quarter with water and the remaining part is to be left empty. Water may be taken now and then during the meal. Water taken in the beginning retards digestion and has the tendency of making the body lean; if taken at the end it makes the body corpulent (Vagbhatta). A thirsty man should not eat, before quenching his thirst and a hungry man should not drink before taking some food. Any disregard of the first rule causes tumour and of the second dropsy. Sushruta draws particular attention to the advantages of dining at fixed hours and recommends that the food once taken off the stove should never be heated over the fire again. Great care should be taken to know the nature of the food before it is taken in use. For the food one eats has much to do with the develop-
meat of his mind, and it is the mind that makes a
man either good, bad, stupid or wicked. "There are
three species of food dear unto all men. The
distinctions are based on the inherent quality or
Guna of the food. The food that is dear unto those
of the Satva Guna (quality of goodness) is such as
increases their life, their power and their stren-
gth, and keeps them happy, contented and free from
sickness. It is pleasing to the palate, nourishing,
substantial and congenial to the body. The food
that is coveted by those of the Rajo Guna (quality
of passion) is either very bitter, sour, salt, hot,
pungent, astringent or very heating, and giveth
nothing but pain and misery. And the delight of
those in whom the Tamo Guna (quality of darkness)
prevaileth, is, such as was dressed the day before,
and is out of season: hath lost its flavour and has
gone putrid; the leavings of others and all things
that are impure". (Bhagvat Gita XVII.8 – 10). Those
who desire to have the quality of goodness should
take the food used by the "Satvikas" and not others.
When the meal is over, the mouth is scrupulously
cleaned, both inside and out, by water, so also the
hands. Salt may be used to remove the greasiness.
Any particles sticking between the teeth should be
picked out. The eyes should be gently stroked with
the wet hands as this has the effect of improving the vision. Then a prayer is offered to Agastya, Fire, and Vadavanala (the Submarine Fire which is supposed to devour the waters of the ocean) to the following effect: "Oh! help me to digest the food I have eaten; let me have the happiness resulting from well-digested food; and relieve me from all diseases". Mangala, Agastya, Agni, Surya, and Ashvinianumaras are also remembered as the mention of their names is said to possess the power of helping the digestion of food. After dinner aloe-smoking or the chewing of Pan (Betel leaf) mixed with certain aromatics and spices is advisable. For it has the property of expelling the phlegm which increases after dinner. The Pan is astringent, exhilarant, aromatic, stimulant, carminative, aphrodisiac, light and heating. It is a good phlegmagogue and generates semen and blood in the body and lessens wind and fatigue. The other ingredients mixed in a certain proportion with the betel leaves are catechu, lime, betel nut, cardamum, clove, nutmeg and some other spices. When the masticatory is to be taken in the morning the quantity of betel nut may be a little larger; when it is taken at noon catechu may be a little in excess; and when at night the proportion of lime may be a trifle more.
The Pan is not beneficial to those who are suffering from tooth and eye diseases, who have taken an opening medicine or who are in an intoxicated state. It imparts fragrance to the breath, improves the voice and removes all fetor from the breath. It is good to walk a little after dinner. To remain sitting brings on idleness. To run after having taken one's meals is to run after death. It must therefore be avoided. To move about a hundred paces promotes life. After a brief lounge, the best thing to do, is to lie down a little, on the left side as this position is good for digestion. At this time the Hindoos generally undergo the process of shampooing. This process consists in pressing the surface of the body, with a view to arouse the muscles to more energetic action. The bending and extending the limbs, as well as racking the joints and employing gentle blows and friction, sometimes forms part of the manipulation. It purifies the flesh, blood, and skin, exhilarates the mind, brings on sleep, cures diseased phlegm, wind and fat, diminishes fatigue and increases internal heat. The practice is peculiar to the Hindoos and is referred to in their ancient works. Shampooing in one form or another has been practised from immemorial ages by the Chinese, the Greeks and the Romans who, ac-
cording to some Western authorities, seem to have obtained its knowledge from the Hindoos. It is of various kinds and the barber caste in India is supposed to be expert in the art. It alleviates muscular fatigue and affords relief to injured joints and fractures. It is a great curative agent in the treatment of complaints connected with the nervous system. It always produces the most agreeable sensation and is believed to be useful for the prevention and cure of certain diseases. The advantages of shampooing have begun to be appreciated by the Western medical science which no longer hesitates to recognise massage as a therapeutic agent for the healing of diseases. This fact is viewed with satisfaction by the Hindoos who fondly hope to see in the several scientific discoveries of the West, the revival and salvation of their own medical lore, which will no longer be treated as empirical but will be recognised as a collective wisdom of those who had due regard to science and theory. In India, people — especially the males — are in the habit of being shampooed more as a matter of luxury than anything else. Female patients, are operated upon by female experts only. Excessive indulgence in massage is deprecated.

Sleeping in the day time, except in summer, is
discouraged. It is allowed to those who are given to walking and riding and are in the habit of undergoing much physical exertion and to children and the sick as well as to those who can control their sleep. That is, those who can dispense with sleeping at night by sleeping during the day. Immediately after dinner it is highly injurious either to bask in the sun, sit by the fireside, swim, ride, run, fight, sing, take physical exercise or even to study. A wise man should never have sexual intercourse in the daytime as it shortens life. After taking a little rest one may engage himself in his daily avocation. An evening constitutional is particularly recommended, as it makes the senses active, excites the action of the stomach and improves the intelligence. When going out the head should always be protected with a light turban and the feet with shoes. It is not good to put on shoes, clothes &c used by others. This advice shows they were not blind to the risks of contagion. One should never be without a walking-stick, as it protects him against beasts, prevents fatigue, and adds dignity to the individual. He should not see his reflection in water, nor, should he enter the water stark naked. He is to be always industrious and never to neglect the calls of nature. An old
man, a Pandit, a Doctor, a King and a guest, should always be respected. The organs of sense should not be over-tasked at the same time, they should not be allowed to remain idle. It is not good to see the rising or the setting sun or to carry any burden on the head. It is injurious to sleep on a torn bed or under a tree.

Such a line of conduct is conducive to long life, health and fame. Having taught how to behave during the day time, the ancient Hindu writers on medicine have laid down rules of life to be observed during the night. They direct that dinner, co-habitation, sleep, study and walking in the street, during the twilight should be avoided. The chance of enjoying the moon-light should not be missed, as it is cool and soothing and increases sexual appetite and powers. Light food should be taken at night. Curds should always be avoided at night and should never be used without mixing salt with it. Sexual intercourse should be in moderation only. With the Hindus the object of sexual intercourse, is not so much the gratification of the animal passion as fulfilling an obligation. It is enjoined on them to beget a progeny, a "putra" son, or a "putri" daughter. The word "putra" is derived from "pu" to hall, and "tra" to liberate, and means
one who can liberate the Wama from hell. For the common belief is, that as long as one does not have an offspring, especially a male offspring, his Wama are all doomed to perdition. One dying without a son is offered no salvation. Marriage among the Hindus is therefore a religious sacrament and not a social contract. To beget a son is, with them, to liquidate the debt they owe to their ancestors. No one would wish to be called childless in that is equivalent to frustrating the real object of matrimony. Sometimes, owing to disparity in age of the husband and the wife, or owing to certain defects in the generative organs of the one or the other, or both, a successful insemination is not possible. With a view to remove these disabilities sage Vatsayana, an author who wrote about the beginning of the Christian era, his book called 'Kama Sutras' or 'Aphorisms of Love,' prescribes some remedies. He alludes in his writings to the works of seven earlier authors on the same subject. His disciple Koka has earned a wider popularity. He describes the various causes that prevent conception and recommends remedial measures. Among other remedies he lays particular stress on Posture which, according to him, has great influence on the female pelvic organs, and points out certain posi-
tions as facilitating impregnation, removing sterility and curing internal disorders. He described as many as 84 positions of Asanas which may be resorted to under varying conditions and adds that these postures not only heighten the pleasure of the moment but act as means of ensuring fecundation. Owing to the extreme sensibility of the subject treated of by this writer his work आसानास रेखें एकत्रित, though translated into several languages of Asia appears to have been held in doubtful repute. But apart from a layman's point of view, it deserves to be appreciated by the medical profession, which has only recently recognised Postural Treatment as a new and useful therapeutic method in the treatment of diseases of women. The subject is still in its experimental stage. When the time comes for a universal recognition of Posture as a curative agent, the 'Medical Science' of India will justly claim the lion's share of the credit, it being the first to propound the theory. The medical works of the Hindus, have from the earliest periods recognised the influence of Posture in parturition, and described in detail, the positions which women in labour should adopt. A sage named Patanjala, the founder of the Yoga philosophy, who flourished about B.C. 200, in his work called "Yoga Sutras"
prescribes various Asanas or postures for preventing and curing diseases to which ascetics, and others practising abstracted meditation and seeking seclusion from the world may be subject during the performance of physical austerities. The writers on erotic subjects have written treatises for the benefit of married persons and recommended particular postures for curing particular diseases, and thrown a sidelight on Genitology or science of Human Beauty. It will be clear from these facts that the Hindoos were not ignorant of the wholesome effect of posture.

Sexual intercourse is prohibited on the first four days of the menstrual flow, as well as, on the 3th, 14th and 15th days of both the fortnights, light and dark, on the anniversary days of dead parents, nights previous to the anniversaries, on Vyatipata (the seventeenth of the astrological Yogas), Vaidhrata (the twenty-seventh astrological Yoga), Gankrati (the passage of the sun or planetary bodies from one sign of the Zodiac to another), in day time, midnight and during an eclipse. One authority advises men to avoid flesh, honey, oil and women's company on Sundays if freedom from disease be desired. It is also said that "putrid flesh, old women, autumnal sun, half curdled
milk, and morning cohabitation and sleep, are fatal to **man**. **Gushrutaka** is of opinion that the carnal desire may be gratified at the interval of a fortnight in Summer and at the interval of not less than three days in other seasons. Those who have eaten a heavy meal, are hungry, thirsty, impatient, boyish, superannuated, with aching limbs and pressured with calls of nature should keep themselves aloof from the indulgence. It is not proper to peep into the privacy of a bed chamber. But the ancient writers on Medicine and Religion, have not omitted to prescribe certain rules of conduct to be observed even there. **Hiranyakasipu** advises the housewife to light the lamp and keep the bed in good order. She should make a bow to her husband and approach the bed after removing her bodice. The retention of the bodice is supposed to bring on widowhood. She is to avoid putting on black apparel, for that has the effect of making the progeny wicked and degenerate. She is to put on clean clothes, deck her body — the nose especially — with jewels, to apply soot to the borders of her eye-lids, and red oxide of lead (**Sindhura**) to her forehead and chew the **Pan** mixed with the usual spices. Both the husband and wife should be in most cheerful spirits. There should be no sign of pain
or sorrow on the face of either. The wife is then to wash the feet of her lord, rub fragrant powders over his body and burn incense before him. She places before him, milk boiled with sugar, nutmeg, saffron, almond and must to drink, and herself drinks what is left. She then offers him betel nut and various spices wrapped in a betel leaf and then rests her head on his feet, takes him for her God and calls to mind the names of worthy men that have flourished in the family, or of any celebrated sage or warrior or holy person. The husband also remembers his Creator and prays to be blessed with a good child. He then indulges in coition when the breath is flowing through his right nostril. For it is said that "dinner, evacuation of bowels, cohabitation, sleep, interview with Kings, fight and taking of medicine, should be done when the breath is passing through the right nostril". After the intercourse it is beneficial to bathe or at any rate to wash the hands, feet and other parts, drink soup or milk, eat articles of food mixed with treacle, open the windows and go to sleep. The lamp should be extinguished by the wife who is then to occupy a separate bed. Care should be taken not to sleep with the head towards the North. It is good to keep it towards the South as that is supposed to
prolong life. One passes a dreamless night by keeping his head towards the west and gets wealth by keeping it towards the east. In order to get a sound and quiet sleep, it is customary to mutter the names of the "five happy Sleepers", namely Agasti, Madhava, Muchakanda, Kapila and Astika. It is better to go to sleep regularly and rise early. If a man gets into the habit of drinking eight anjalis (a measure formed by putting the hands together and hollowing the palms) of water every morning at sun-rise, he will be free from diseases and old age and will live for a hundred years. Such a habit averts a variety of diseases such as hemorrhoids, inflammation, neck-disease, headache, shooting pains and certain bilious complaints. If one is accustomed to drink a small quantity of water through the nose instead of through the mouth, his eye-sight will improve and his hair will not turn grey.

The above precepts, which are for daily practice, may be modified a little with the change of the seasons. India has the advantage of enjoying six seasons, each occurring regularly, lasting for a period of two months and produced by the progress of the sun in the Zodiac. They are:

- Chishira, the dry season, (about January and February);
Tasanta, Spring or flowery season, (about March and April);

Dressha, the hot season, (about May and June);

Yarsha, the rainy season, (about July and August);

Tharad, the sultry season, (about September and October);

Tananta, the frosty season, (about November and December).

During the first three seasons the sun remains to the north of the equator. The effect of the sun on the vegetation at the time is not of the best. He is supposed to absorb the juices of medicinal herbs and impart to them heating properties. In the remaining three seasons the effect of the sun's rays on the herbaceous plants is very beneficial. The vegetables produced in this part of the year possess cooling properties.

In Thishira when the climate is cold and dry the morning meal should never be neglected, and pungent, acrid and salt things should be particularly used. The body should be smeared with oil and physical exercise should be taken. Wheat, jaggery, rice, yasha (Phaseolus Radiatus), meat, new grain, sesamum and massage are highly agreeable. Saffron and musk may be applied to the body. The clothing should be warm.
Zarashe promotes phlegmatic diseases. Emetics may be taken with advantage in this season. Bodily exercise is also beneficial. Dry, pungent, light and heating substances should be selected for food and sleep in the day time should be avoided. The season is generally unhealthy and much suited for physicians to drive a roaring trade in. Pupid baths are advantageous. Wheat and rice used for food should be 3 year old. Mid-day may be spent with profit in a garden abounding in flowers and verdure which do not let in the direct rays of the sun.

In Trusha, the sun absorbs the phlegm secreted in the body. It is therefore advisable to eat such articles as may make up for the loss of the phlegm. Sweet, greasy, cooling, light and liquid things are recommended. Sugar, curds and sugar, soup and milk may be freely used. A noon-day nap is a good prophylactic in this season. Moon-light is healthful. Pungent, salt and acid articles should be shunned. Athletic exercise as well as shampooing should not be indulged in.

Zarashe gives rise to wind complaints. As a palliative sweet, sour and saline substances should be used for food. Humidity should be guarded against. Sitting near the fire-side is profitable and shampooing is good. Curds should not be taken
without being mixed with black pepper. "Heat, rice and Vasa are good to eat. Well-water or rain-water may be taken in use. East winds should be avoided; so also sleep in the day time, fatique, swimming and exposure to the sun's rays. Sleeping on the ground floor is not advisable in this season.

Thadh gives rise to bile distemper. Clarified butter, milk, white sugar-cane, jam, wheat, barley, kidney bean and rice should be selected for food. Sweet, astringent and bitter things should be preferred. Rain water, and water which is exposed to the sun's rays in the day time, and the moon's rays at night, should be used for drinking purposes and the water, as a rule, should be fetched in the morning. The use of camphor, sandalwood and light clothes is recommended. Flowers, moon-light, playing in the water and light and cooling articles of food are salutary. On the other hand, cards, exercise, sour, purgant, hot and acid articles of food, and exposure to the sun are injurious. This is the most unhealthy season in India and is aptly described by a common Sanscrit hemistich "Vaidyasya Sharali Vata Pita cha Kasumakaras" which means "the autumn is the mother, and the spring the father, of the physician". For the Vaidyas are never so busy as in the two unhealthy seasons which provide them
with the means of livelihood. "May you live for a
century Charada" is a common form of benediction
among the Hindoos. Prescriptions to evacuate the bile
and blood-letting in strong persons are conducive
to health in this season.

Generally the rules of conduct to be observed
are similar to those prescribed for Vishnu.

These practical precepts, have received the seal
of sanction and approval from the Hindu Religion
which has made them binding on the people, who still
cling to them, though foreign invasions and inter-
temporal dissensions have materially affected their
social habits and political influence. History
makes mention of no other nation that has survived
so many counteracting forces. If Megasthenes, who
wrote about India in B.C. 300, or Hiouen Thsang, the
Chinise pilgrim, who graphically describes his
experience of India in the seventh century, were to
rise from their graves and revisit the country, they
would scarcely have occasion to alter their first
impressions about the manners, customs, and the
daily practices of the Hindoos of the present day.
This proves pretty clearly, that the various observ-
ances and hygienic directions prescribed for the
guidance of the Hindoos, are based on too solid a
foundation to be wholly destroyed or radically
affected by the savages of Time. By their daily and seasonal practices the Hindoos are directly and indirectly defending themselves against the approach of diseases. But diseases often do come in spite of preventive measures. Their medical works therefore prescribe remedies for curing them. Their theory of the nature of diseases, is somewhat different from that recognised by the modern science. But it has the merit of being original; and as it has been in vogue for centuries it will be well to describe it as briefly as possible.

The Indian Medical Science attributes all morbid phenomena to the disordered condition of the three principal humours in the body, called Doshas, viz: wind, bile and phlegm. These fluids pervade the whole microcosm of man. If there is no disturbance in their functions the body remains healthy. If they be defective, they subject it to all sorts of disorders. The three humours fill the whole body which they support; yet the principal seat of wind (Vata) is between the umbilicus and the feet; of bile (Pitta) between the heart and umbilicus; and of phlegm (Kapha) between the heart and the vertex. Wind predominates in old age; bile in middle age; and phlegm in childhood. Evening is the time for the predominance of wind while noon and morning for
the prevalence of bile and phlegm respectively. Similarly, the influence of wind is great after the food in the stomach is digested; when the action of the stomach is half done, or when the food is in a semi-digested state, bile gets the ascendency and phlegm holds the sway in the commencement of the process of digestion. Then wind predominates digestion becomes irregular; when bile predominates it is accelerated; under the controlling influence of phlegm, digestion becomes weak. Then the three humours are in their proper proportion, digestion is perfect. If wind predominates, the bowels become costive; when bile is in excess, they become loose; when phlegm predominates, the bowels remain in their normal condition. A proper equilibrium of the three, alone keeps the body healthy. Sometimes defect in the humours is congenital. In that case biliosi diathesis, is considered better than windy, and phlegmatic, better than either though, on the whole, any disorder in the humoral functions, is undesirable. The cardinal humours, Vata, Pitta and Kapha, are expressed in English by Wind, Bile and Phlegm respectively, but they convey more meaning than their English equivalents are capable of expressing, as will appear from a short description of each.
Every movement of the body depends, according to the Hindu theory, on "wind" which alone possesses motive power. It is susceptible of taking qualities by contact and is naturally dry, light, cool, sharp, fire and motive. It is of five kinds distinguished from one another according to the functions they perform in the organism. Their names are Udana, Prana, Samana, Apana and Vyana.

Udana is situated in the neck above the sternum and it is by this wind that one can speak, sing and articulate sounds. When it becomes defective it produces diseases in the parts above the clavicles.

Prana is situated in the chest and passes through the mouth and nose and is the means of inhaling and exhaling the breath and performing deglutition. When it is deranged it produces hic-cough, asthma etc.

Samana is in the stomach in the neighbourhood of the gastric fire. It converts the food introduced into the digestive canal into a nourishing juice and separates the juice from the refuse which is to be rejected from the body. When vitiated it causes dyspepsia, diarrhoea and colicky pain.

Apana is located in the abdomen. Its function is to expel faeces, urine, semen, fetus and menstrual fluid. When diseased it causes constipation, dis-
cases of the rectum, urethra, bladder and seminal disorders.

Vama pervades the whole body and energizes it by conveying the fluids over the different parts. It produces the flow of sweat and blood and the various movements of the body are all dependent on it. Then it is vitiated, it gives rise to all sorts of bodily complaints. If all the five kinds of wind are diseased the body perishes. Some writers recognize five more vital airs and call them Vata, Kapha, Pitta, Prana and Vayu, their respective functions being eructation, dictation, sneezing, yawning and inflation of a corpse.

Pitta is naturally hot, liquid, yellow, bitter but acid when vitiated, light and oily. It produces animal heat and is of five kinds:

Vata is situated between the stomach and the small intestines (Jawarshala) which is the seat of the fire of digestion. It assists digestion and imparts heat to the whole body and separates the nourishing juice (Jasa), urine and feces. Native writers do not seem to be unanimous in their opinion about the nature of the 'fire of digestion'. In the opinion of some this bile and the bodily fire are identical. Others think differently. The author of "Jasa-pradipa" describes this fire as an
Intensely minute heating substance, situated in the middle of the naval. It communicates heat to the bile and digests the food received in the stomach. In the largest animal it is not larger than a barley-corn; in smaller animals it is as small as a sesamum seed, while in worms and insects it is as minute as the point of a hair.

Bhaishaja remains in the liver and the spleen, and imparts redness to the essential juice, which then becomes blood.

Bhaishaja is in the heart. It sharpens memory, intelligence and understanding.

Alochana is in the eyes and supports the power of vision.

Bhradaka is situated in the skin to which it gives brightness and a healthy colour. It absorbs applications made to the skin and improves the complexion.

Kafa is white, heavy, oleaginous, viscid and cooling. It is sweet but becomes salt when defective. It is of the following five sorts according to the locality in which it is situated:

Kirdana is in the stomach. It moistens the food and strengthens the different organs of the body.

Avalakhana is situated in the heart, the shoulder joints and the trik (sterno-clavicular joints).
Pitam, it is in the throat and the lungs which it keeps moist, and discriminates the different tastes of the food eaten.

Suchana is in the head and saturates the organs of sense by keeping them moist.

Shleshana is situated in the joints, which it lubricates and keeps ready to perform their actions. Any derangement of the humours engenders diseases.

It is easy to find out from certain signs as to which of the humours is in excess in a particular individual. For instance a person constitutionally subject to excessive wind, is generally dark, lean, susceptible to cold, garrulous, jealous, impatient, in the habit of keeping awake, has dry and scanty hair, walks fast, is not very fond of women and has few children. He often dreams of flying or climbing. Agbhatta says that dog, hare, camel, vulture, rat, crow and owl are by nature subject to wind humour.

A person with bilious temperament is fair, lean, irritable, prematurely gray, timid, intelligent, red-eyed, is a huge eater, often feeling thirsty and hungry, fond of scents and flowers, liking sweet, bitter, astringent and cold food, enterprising, loving self-praise, proud, kind to his dependents, liking spirits distilled from molasses, has good
Bile causes, and means of fire, and lightening. Fire, moisture, cat, wolf and spider are said to be bilious by nature.

A phlegmatic person has generally a fair complexion, long and black hair, broad chest, likes bitter, astrigent and hot diet, is strong and forbearing, true to his word, courteous, pious and intelligent, but slow in work, is fond of vocal and instrumental music as well as of venery, takes delight in physical exercise and is constant in love. He often dreams of rivers and ponds. Eagle, swan, lion, horse and ox are said to have phlegmatic constitution.

Wind is deranged by fasting, watching, jumping, severe exercise and excessive indulgence in sexual intercourse. Bile is deranged by excessively hot, dry and bitter food and intoxicating drinks as well as by anger and excess in venery. Phlegm is deranged by want of sleep, sleeping in the day time and eating without appetite.

Besides the three humours described above, seven more essential parts or supporters of the body are enumerated. They are called Dhatus or constituent parts. They are rasa (chyle), rasa (blood), mesa (flesh), meda (fat), asthi (bone), majja (marrow) and shukra (semen). Their respective func-
tions are to cause pleasure by circulation, energize, plaster, lubricate, support, fill the cavity of the bones and propagate.

As has been stated above, the Rasa permeates the whole body by circulating through the Dhapanies. It is a nutritive fluid extracted by intestinal absorption from the food which has been subjected to the action of the digestive organs. It is purely white in appearance, is sweet and cooling and keeps a man in good spirits. The fluid, when in course of circulation, enters the spleen and the liver, it becomes red and is then called blood. Blood is turned into flesh, flesh into fat, fat into marrow and marrow into semen. Rasa when defective becomes acrid or acid and engenders diseases, sometimes poisoning the whole body.

Rasta (blood) which is heavier than Rasa also circulates in the vessels assigned to it. This theory of the motion of the blood through the different vessels of the body is worthy of attention, for it sets up the ancient Hindoos as claimants for the honours given to William Harvey for discovering the circulation of the blood in 1628. Harvey, no doubt, was the greatest experimenter of his age and deserves the highest credit for leaving an glorious legacy to modern Physiology by scientif-
ically explaining the theory of the circulation of the blood. But it is possible for him to have received his inspiration from the earlier writers who have taught something similar, if not with so much nicety. If the ancient Hindoo writers on medicine, do not make mention of the circulation of the blood as frequently and explicitly as they do of the circulation of the Rasa, it is because there is, according to them, little difference between the two except in their colour and specific gravity. Both are fluid, but Rasa is a finer liquid which supports the body and is the very essence of existence. Blood minus its colouring ingredients, is Rasa. It may be called Chyle, though the Hindoo writers give it a wider significance than the English word is capable of bearing. The function of circulation, is common to both the fluids. For Rasa, it is distinctly stated, that from the heart, it is propelled by the Vrana or the Arteries and Veins and nourishes the body as water conveyed through the canal irrigates the field. This exactly answers the description of the circulation theory. The circulation of the blood is also mentioned by several early writers who each and all ascribe the property of Chala (motion), to the blood. Harita, in his work 'called the Harita
Zakka, which some believe to be older than Hushruba, refers to blood-circulation in the course of describing a disease called Pancha-roga (Anemia). It says that this disease is sometimes caused by swallowing clay which some persons are in the habit of doing. "The clay thus eaten blocks the lumen of the several veins with sediment and stops the circulation of the blood". The author of Bhavaprakasha, who is a century senior to Dr. Harvey quotes the following couplet bearing on the circulation of the blood:—

Duatoonam pooranaa sanyak
Sparshajnana: asamshayam
Simshirasa charai raktam
Karyachayaan guam api.

"Blood by circulating through its vessels fills the Dhatus well, causes perception and performs other functions (of nourishing and strengthening)".

Again:—

Yada tu kupitum raktum
Sevate svavanas shiras
Tadasya vividha roga
Jayante raktasamhavas.

"When the defective blood circulates through its vessels it causes many blood diseases".

Similar passages can be transcribed from even
earlier writers. But the above quotations are enough to satisfy a casual reader that the circulation of the blood was not unknown to the early Aryans.

Mamsa (meat) is blood digested by heat and thickened by wind which also produces flesh (muscles). There are five hundred muscles in the body of a male. In females they are four hundred and ninety seven. Veda (fat) is produced by the digestion of the flesh by the internal fire. Its principal seat is in the abdomen. Asthi (bone) is fat digested by the internal fire and thickened by the wind. According to Sushruta, there are three hundred bones in the body. Charaka includes the cartilages of the nose, ears, neck and eyes-lids, and makes the number 395. Of these there are 120 in the limbs — the arms and legs —; 117 in the trunk, and 63 in the head and the neck. Majja (marrow) is situated within the bones and gives a shining appearance to the body. Shukra (semen) is formed in males by the essential parts of marrow mixed with blood. It is the support of the body and the root of pregnancy. In the female the Rasa is converted once a month into measure, the analogue of semen in the male. When conception takes place, the menstrual fluid is diverted to the mammary glands and forms milk.
Urine, feces, sweat, cerumen, free extremity of the nails, hair, expectorations, tears, chinsie and nasal mucus, are considered impurities of the body.

There are six Ashayas or hollow visceras for holding phlegm, undigested food (ama), bile, wind, feces, and urine. A female has three more for holding the fetus and the secreted milk. Seven smaller visceras for holding some of the essential parts are called malkas or receptacles. The human body contains 810 joints or saadhis of which sixty eight are moveable and the rest immovable. There are 35 joints in the upper and lower extremities, all moveable; 59 in the trunk and 80 in the head and neck. The joints are bound together by nine hundred Bhayaas thus distributed: 300 in the upper and lower extremities; 930 in the trunk and 70 in the head. Hindoo anatomy recognises certain vitals in the body which are most essential to life and to sound health. They are to be carefully preserved against all injury. They are arranged in five groups, according to their regions and the consequences they produce when wounded:—(a) parts which if wounded cause immediate death; there are nineteen such parts; (b) those which if injured cause a lingering death; there are thirty-three of
this kind; (c) such as impair the limbs if wounded; there are forty-four such parts; (d) parts which when wounded produce only pain; of such parts there are eight; and (e) vital parts which produce fatal results if foreign bodies located therein be extracted; of these there are three in the body. All these parts are described at length, and physicians are particularly warned to avoid operations on these.

There are altogether 700 vessels in the body with sixteen larger ones called Kadabara and twenty-four called Bhanadas. Wind, bile, blood and phlegm have each a number of vessels assigned to them for moving about. A man's body has nine orifices: the mouth, two nostrils, two ears, two eyes, the anus and the meatus urinarius. The female has three more namely, the openings of the lactiferous ducts and the orifice of the vagina. Besides these, there are sixteen Jalas or plexuses, six Koorchas (large glands?), four Rajus or chord-like structures, seven Seuvamas or sutures which should never be bored, fourteen bone-groups, fourteen Gimaatas or supporters of the groups and seven layers of the skin. The names of the seven layers are:

- Avabhasini, the external layer containing the vessels. Its thickness is one eighteenth of a
Lohita (blood-red) is the sixteenth part of barley in thickness. It is in this layer that pimples originate.

Shveta (white) is of a white colour, and is one twelfth part of a barley grain in thickness. It is the seat of cutaneous eruptions and chicken-pox.

Tarpa (copper-coloured) is a membrane an eighth part of a grain of barley in thickness.

Vedini (sensible) is the thickness of the fifth part of a grain of barley. Erysipelas begins in this layer.

Lohini has the thickness of a barley corn and is the seat of tumour and bronchocutis.

Mansadhara (flesh-holding) is the thickness of two barley corns. It retains the muscles in their places and is the seat of boils.

These layers are distinguishable only in the region of the belly and a few other parts.

The Science of Aryan Medicine is, as we have seen, based on the three morbific diatheses. These dispositions are born with man. — nay, it is asserted that there is no substance in the universe which does not owe its formation to the humours in more or less proportion. The humoral pathology of
the ancient Aryans has been in existence for ages. Diagnoses made on the principle of this theory and medicines administered in conformity with its teachings have, say the Hindoos, worked pretty successfully in India. This theory seems to have been borrowed from the Hindoos by Hippocrates (460 B.C.), the Father of the Greek medicine, and the same retained its hold on the medical schools of Europe for more than 2000 years. To discard the theory as thoughtless and barbarous is, urge its advocates, unjustifiable. The epithets are strongly resisted by the Aryan physicians who complain that their theory has not been properly studied and examined by the modern investigators, who have condemned it on insufficient data. They are however taking comfort in the hope that the modern medical science, in the course of its onward march, or on reaching its goal of progress, may possibly land them on the very theory, which they have at present rejected, if one reads the Hindoo works of medicine without prejudice or prepossession, he will at once see what a vast amount of knowledge and information they contain, and what a variety of subjects they have traversed. In every branch of knowledge the early Hindoos, have generally speaking, been ahead of other nations, and they claim...
for their medical science a better treatment than what has been accorded to it by the modern scientists. They have brought to bear on their investigations originality, search and methodization. If by the limited means and appliances at their disposal, they have been unable to reach the standard of accuracy attained by the Western science, they have the credit of laying the groundwork of medical practice in the civilized nations of the world. Their elaborate works embrace almost all the important branches of the healing art.

Their Materia Medica is a marvel to the modern people. In it are fully described the properties of drugs belonging to the animal, mineral and the vegetable kingdoms and of the articles of food essential to the maintenance of health and strength. The theory which forms the basis of their investigations is, that every substance, whether animal, mineral or vegetable, possesses five properties, namely, Rasas, Gunas, Veerya, Vipaka and Prabhaya.

1. Rasas (tastes) are six, — sweet, sour, salt, bitter, pungent and astringent. Of these the first is more restorative than the second; the second more so than the third and so on. The first three tastes (sweet, sour and salt) are antagonistic to wind humour and the other three to phlegmatic
disorders. Astringent, bitter and sweet tastes pacify biliary complaints, while salt, sour and pungent promote the secretion of bile.

The different tastes possess different qualities or properties which are thus described:

(a) Madhura (Sweet) taste has the property of increasing virility, promoting strength and secretion of milk in women, improving the eye-sight, strengthening the body and germinating worms. It is beneficial to children, adults, the wounded, bald and the feeble.

(b) Amla (Sour) promotes digestion and appetite; is cooling in perception but heating in effect; cures wind disorders; is bad for semen, is good in costiveness and is laxative. Too much of it causes amblyopia and other diseases.

(c) Lavana (Salt) is tonic, relaxes the bowels, deranges bile and phlegm, causes flaccidity, lowers the activity of the sexual functions and promotes perspiration. If continually taken it turns the hair white.

(d) Katu (Pungent) is hot, destroys worms, diminishes the secretion of milk, and dries the doe; promotes appetite and lessens the fat in the body. It improves the intelligence but destroys strength and beauty.
(e) **LASSA** (Sativa) is cooling, alleviates thirst, fainting, fever and burning sensation, cures acute diseases but causes derangement of wind. Too much of it causes shooting pain in the head.

(f) **ARDSAVA** (Astringent) heals wounds, produces stiffness and softens the skin. Astringent articles are always taken, they stiffen the body, swell the abdomen, and cause pain in the heart.

2. **Guna** (Virtue) is the 'inherent property' of a drug causing a particular effect when used either internally or externally. India is a vast and fertile country, and has the privilege of enjoying all the periodical seasons of the year. This circumstance makes it an encyclopaedia of the vegetable world. The ancient Aryans have taken the trouble to examine all the herbs that came under their observation and studied their action. They have classified them into Groups or **Ganas**. Charaka gives fifty groups of ten herbs each, which he thinks are enough to serve the purpose of an ordinary physician, though at the same time, he adds, that "the number of groups can be increased to any extent". Similarly Sushruta has arranged 750 herbs in thirty-seven sets according to some common properties. Other writers have added to the list
which forms an interesting literature on the
Kalariya Vadiya of India. They have also described
the proper seasons for gathering the herbs, the
period of their growth, when they possess their
distinctive properties, the localities from which
they should be collected and the manner of treating
them, extracting their active principles, and pre-
serving them. Some of the groups mentioned by the
Indian writers are given below:

1. Anjanardaprasarana (Antispasmodic) as Vida-
rimachadi (Costus speciosus).
2. Anulepana (Cathartic) as Haritaki (Chebulic
Myrobalans).
3. Arshogna (Haemostatic) as Indrayava (Wrightia
antidysenterica).
4. Aravottadi (Emenagogue) as Jotishrati
(Cardiospermum helicacanthum).
5. Askumarighna (Litholytic) as Sakshara (Tri-
bus terrestris).
6. Avrishya (Anaphrodisiac) as Sghostrina (And-
ropogon schiamanthus).
7. Bhedana (Purgative) as Katuki (Pierorrihiza
kuruca).
8. Chhatrinigrahana (Anaemic) as Dadima (Panicum
granitum).
9. Chhejana (Laxative) as Varichi (Piper nigrum).
17. Acharan (Antipyrotic) as Haraka (Anacardium occidentale).
12. Dandha (Dischirotic) as Anulata (Cunania alcicarpa).
13. Demahaya (Glossene) as Pappalampala (Piper longum).
14. Garbashara (Glossene) as Harjana (Caesalpinia carotata).
15. Tráhi (Carratve and exsiccative) as Haraka (Cacanum cynanthum).
16. Nakalabhaha (Antisingultus) as Shalhi (Sedum plattatum).
13. Ivarhara (Antipyratic) as Poala (Salvadora indica).
16. Ivarhara (Phlegrogogue) as Ksaha (Saccharum officinarum).
17. Parahara (Antiphlegmagogue) as Bibheetaka (Perninilia bellirica).
19. Kandhuna (Antipsoric) as Chidana (Sistilum album).
21. Kandura (Rubefacient) as Kapiakhha (Musa aur prunais).
22. Karsyakara (Antifat) as Svedha (a kind of corn).


25. *Aashtighna* (Antiscorbutic) as *Varidri* (Car- cuma zedoria).


27. *Lalighna* (Antisialagogue) as *Jalifala* (By- ristis moschata).


30. *Moostrasiraghaara* (Diuretic) as *Kasha* (Poa cynosuroides).

31. *Moostrasiraghaara* (Checking polyuria) as *Pip- palashhal* (Cortex ficus religiosa).

32. *Mirdhara* (Hypnotic) as *Kakajayka* (Capparis sepiaria).


34. *Nirmakara* (Depilatory) as *Raja* (Shorea rob- busta).

35. *Pittaaka* (Cholagogue) as *Tvak* (Cinnamomum cassia).
36. Prabhakara (Antiehlogogue) as Ramala (Columbium spectiosum).
37. Pratiksha (Antiebolic) as Vishakranta (Evolulus hirsutus).
38. Prakruthi (Antiehysical) as Nisnur (Narthen assafeteli).
39. Prasavaka (Parturifacient) as Daypaur (Citrus acida).
40. Pratigava (Antiebolic) as Karpura (Canphora officinarum).
41. Prasahavavana (Astringent) as Trivrit (Faliero latinum).
42. Prasaavana (Rejuvenescenct) as Gazzula (Amyris pentaphylla).
43. Prachana (Hydroagogue) as Trivrita (Aponoea terpethum).
44. Rohana (Spulotic) as Lilu (Sessannum indica).
45. Sangohana (Anaesthetic) as Mulla (Vini Medica).  
46. Samshodhaka (Emetic and purgative) as Davadali (Luffa scolina).
47. Sangohana (Costringent) as Varalata (Quercus infectora).
48. Sanjivasthapan (Restorative) as Jatamansi (Valeriana).
49. Shamaneeya (Calmative) as Amrita (Cocculus
50. Shekatprashanana (Antalgic) as Agaru (Aquilolaria agallochum).
51. Shaktara (Spasmodic) as Snoothes (Gophoria tirucalli).
52. Shaktprasahana (Antispasmodic) as Ajamoda (Ptychotis ajowan).
53. Shothahara (Discutiate) as Afani (Premna serratifolia).
54. Shirovirachana (Steroidal) as Agastya (Agati grandiflora).
55. Thamahara (Refrigerant) as Akshu (Saccharum officinarum).
56. ThronasthiMipana (Styptic) as Kesara (Gressus sativus).
57. Shukramana (Spermatorpetic) as Kshearkakali (Hydrasulam Ganganisum).
58. Shukrana (Tonic) as Panabaha (Seleteres isora).
59. Shukrashoithana (Semen-improving) as Kuditha (Saasurea lappa).
60. Shvasahara (Asthmatic) as Ela (Anonum elattarum).
61. Sahopaga (Demulcent) as Vidari (Malatas paniculata).
62. Sransani (Frost) as Rasttara (Cassia fis-
30. \textit{Shatavari} (Galactagogic) as \textit{Shatapushpi} (Trigonella aincinni).


32. \textit{Ivarya} (Good for voice) as \textit{Madhura} (Oleoporia globra).

33. \textit{Yudopaga} (Diaphoretic) as \textit{Panaravya} (Boerhavia diffusa).

34. \textit{Prishnashakara} (Frigoric) as \textit{Dhara} (Corinadrura sativa).

35. \textit{Vajrayana} (Aphrodisiac) as \textit{Ashvakardha} (Chrysanthemum somniferum).

36. \textit{Yamana} (Emetic) as \textit{Madana} (Pandia dumetorum).

37. \textit{Yamana} (Cosmetic) as \textit{Manjishthi} (Cubia cordifolia).

38. \textit{Yamana} (Promoting wind) as \textit{Vallaka} (Colias sicanae).

39. \textit{Vishagharpa} (Ancyse) as \textit{Sarahasha} (Mimosasirissa).

40. \textit{Vishakh} (Toxic) as \textit{Vatsanabha} (Aconitumnapellus).

41. \textit{Vishaghma} (Antitoxic) as \textit{Virgandi} (Vitex agnus).

42. \textit{Vivayi} (Sedative) as \textit{Bhangi} (Cannabis sa-
Agnivesha, disciple of Charaka, enumerates no less than five hundred classes of medicinal agents arranged according to their real or supposed virtues in curing diseases. A few have been selected from them at random and noted above. The chief notable feature in connection with the nomenclature of the Indian plants is, that in several cases their names are descriptive either of their character or property. A few instances of herbs descriptive of their prominent specific character are given below:

(a) "Brachyramphus sonchifolius" is called Akhu-karni (rat-eared), as the leaves of the plant resemble the ears of a mouse.

(b) "Acorus calamus" is called Uttra-gandha (strong-smelling) because it gives off a very pungent and heating odour.

(c) "Glitoria ternata" is called Go-karni (cow-eared) as the seeds are supposed to resemble the ears of a cow.

(d) "Aconitum ferox" is called Katak-banha (calf's navel) because the root resembles in appearance the navel string of a calf.

(e) "Sapindus emarginatus" is styled Bahu-fana (very-foamy) as like soap, its berry produces much froth when agitated with water.
(a) "Pentas enneaphylla" is called Chitra-bejia (spotted-seed) because of the seed being mottled with white, brown or dark patches.

(b) "Almosta sensitiva" is called Laljala (shy) from its leaves mimicking sensibility by folding at the slightest touch.

(c) "Trilobus terrestris" is called Tri-kantika (three-prickled) because its fruit is armed with three prickles or thorns.

(d) "Sphatika India" is called Dhata-pushpa (bell-flowered) as its flowers have the shape of a bell.

(e) "Cassia fistula" is called Dearsha-fala (long-podded) because its pod is cylindrical about two feet in length and one to one and a half inch in diameter.

Names of a few herbs descriptive of their inherent virtue are given below:

(i) "Amygdalus communis" is called Vata-vairae (wind enemy) as it cures the disorders of wind.

(ii) "Emblica officinalis" is called Krimi-rhma (worm-killer) as it expels worms from the alimentary tract.

(iii) "Cassia tora" is called Dadra-rhma (itch-curing) being very efficacious in curing
(d) "Coleus aromaticum" is called Pashana-phadi (stone-breaker) as its juice is said to possess the property of dissolving stone.

(e) "Fricthea abecordata" is called Shotha-zheem (intumesceence-curing) as its root is used in dispersing mortid swellings.

(f) "Ophelia chiretta" is called Ivarantata (fever-ending) as it serves to cure fever.

(g) "Thevetia nerifolia" is called Plecha-ghhee (spleen-curing) being useful in curing splenitic disorders.

(h) "Terminalia bellierica" is called Kasa-ghha (cough-curing) because it cures pulmonary catarrh.

(i) "Ganecarpus incardium" is called Arush-kara (eschar-causing) as when applied to a living part its nut gives rise to an eschar.

(j) "Cassia absus" is called Lochana-hita (eye-benefactor) because its seeds are used as an salve to strengthen the sight.

3. Vaerya (power) is the third of the five properties innate in every medical material, a knowledge of which is considered to be indispensable for a practical study of the Materia Medica. According to the influence of the sun or the moon a
medicine is believed to be either hot or cold in power. It is therefore called "Jaha-vaerri", heating, or "Sheki-vaerri", cooling. Hot agents cause giddiness, thirst, uneasiness, sweat and burning sensation; remove cough and wind but increase bile and promote digestion. Cold agents lessen bile and increase wind and phlegm, promote strength and pleasure, and improve the blood. Even where a medicine capable of producing effects similar to the disease to be treated is administered, or, as the homoeopaths would put it "Similia similibus curantur", it is distinctly understood that when a patient is suffering from an effect of inherent heat he may be treated with a "cold-powered" medicine and vice versa, or otherwise the result must be fatal. A general belief of the Hindoos in the hot and cold inherent qualities of medicines is fully shared by the Greek physician Galen who teaches, that if a disease be hot or cold a medicine with the opposite qualities is to be prescribed.

4. Mappa (consequence of action) is the change which a medicine undergoes in the organism under the influence of the internal heat. When a substance in the stomach is brought in contact with the digestive fire it is decomposed and is sometimes recognisable in another form with its medici-
All activity greatly modified by the chemical changes that affect it. This converted state of the substance is called its Vipaka. The chemical effect on the six kinds of tastes is either sweet, sour or pungent. The Vipaka of sweet, sour and pungent agents remain unaltered as a general rule; that of a saline substance generally becomes sweet and of astringent and bitter, pungent. The word "generally" is used with a view to show that the rule does not hold good in every case. Rice, for instance, is sweet, but by the influence of the bodily temperature within, it becomes sour. Shambho myrobolan has an astringent taste, but by a chemical action in the organism it becomes sweet. A sweet Vipaka promotes phlegm but lessens wind and bile. A sour Vipaka increases bile but decreases wind and phlegm; while a Vipaka that is pungent gives rise to disorders of wind and subdues those of phlegm and bile.

Native Pharmacodynamics treat of the changes which each medicinal agent undergoes in the organism. In determining the property of an agent and the chemical changes that affect it the ancients have ascertained as to which of the five constituent elements — ether, wind, fire, water and earth — is predominant in its formation. The five elements have been characterized by their respective qual-
ities of lightness, dryness, sharpness, mastication, heat and heaviness. It may be noted here, by way of preface, that this elemental theory precisely accords with that of Plato, Hippocrates and Pythagoras though the first two do not seem to recognize ether as an elemental constituent. To determine the proportion of the several elements in the formation of a medicinal drug and to describe the subsequent changes it undergoes in the living economy presupposes some knowledge on the part of the Indian writers of old, of chemical analysis and the process of decomposition, though it must be admitted without reserve that they possessed not a fraction of the facilities which the modern science has invented with a view to secure accuracy of result.

The therapeutic effect of a medicinal agent is regulated not by the nature of its inherent taste but by that of the taste of its tātpa.

5. Prabhava (inherent nature) is the peculiar active force residing in a drug. There are certain drugs whose taste, property, power and consequence of action are analogous and yet the effects produced by them are in every way dissimilar. For example Madhuka (Jassia latifolia) and Draksha (Vitis vinifera) are similar in taste, — both being sweet, — similar in property — both being
heavy —, similar in power — both being cold —, and similar in consequence of action — both remaining sweet in their vipaka, and still the physiological effect of the former is, costive and of the latter laxative. This inherent peculiarity of the drugs is called their prabhava. In like manner Chitraka (Clundigo oleracea) and Danti (Croton poisons-drum) are both pungent in taste, light in property, hot in power and pungent in consequence of gastric action. But Chitraka promotes digestion while Danti operates as a powerful purgative. Certain substances show their prabhava independently of the four conditions enumerated above. For instance a herb called Tahadevi (Glycine labialis or Vernonio cinerea) if procured in a prescribed manner and tied on the head cures intermittent fever, though as an ordinary medicine when administered internally it is an alternative and bitter tonic and its juice when applied externally cures leprosy and chronic skin diseases. It is on this principle that persons acquainted with the prabhava or efficacy of certain objects as fruits or stones, wear them on their bodies as prophylactics against certain diseases. The ascetics of India who prefer to be aloof from society and pass their time in solitude and jungles, are said to be familiar with the wonderful
properties of rare drugs, which go not only to keep
their bodies and souls together but to prolong
their lives to a considerable extent. Their know-
ledge of the prabhava of the different herbs com-
bined with the practice of regulating their breath
is supposed to give them a longevity quite beyond
our comprehension. This knowledge is handed down
from teacher to pupil and forms a small volume of
unwritten and traditional lore on the subject of
the nature and properties of the Indian curative
agents.

The Materia Medica of India is acknowledged on
all hands to be very voluminous, but the most no-
ticeable feature in connection with this particular
branch of the medical science is that unlike other
Aryan sciences it has been up to a certain period a
progressive one. Each successive writer after a pa-
tient and careful investigation appears to have ad-
ded new drugs to the existing list and has thus
confferred a lasting benefit on mankind. Some of the
writers emphatically assert that all the curative
agents mentioned in their treatises have been
thoroughly tested and recommended after a good deal
of practical experience. Each writer has of course
his own method of treating the subject. We have al-
ready referred to the classification of Agnivesha
and of Sushruta. The latter in the 59th chapter of his standard work has arranged the drugs into classes according to their power of curing certain diseases, prescribing from ten to twenty-five medicines for each disease. He strongly recommends that physicians should be able to identify the various medicines they have to deal with. They should personally go to the jungles and with the help of shepherds, graziers, ascetics, travellers and others familiar with the forests should ascertain their properties and gather the herbs when they are in flower, taking care to avoid those injured by insects or growing on situations containing nests of white ants, or where bodies have been buried or burnt, or from ground in which there is much salt.

We have also referred to the classification of Charaka based on the properties of various medicines. Vagbhata, in the 15th chapter of his popular work has followed Sushruta's method but the concise way of his description has a charm of its own. The method adopted by the author of "Dhanvantari Nighanta" is much the same as followed by Charaka with this difference, that when the latter mentions one drug in the treatment of several diseases the list of the former is free from such a repetition. The work is of great antiquity, but the name of the
author is not known. Some ascribe the authorship to Dhanvantari, the Father of Indian Medicine. But this is not the case. For in the prologue of his work the writer offers his salutations to "the Divine Dhanvantari adored alike by gods and demons." In this most elaborate work he has treated of 378 drugs exclusive of minerals.

The next important writer on medicinal herbs is Bhava Mishra, son of Lataki Mishra, referred to in previous pages. He has given the names and properties of about 150 drugs more than are found in "Dhanvantari Nighanta" such as Ahifana (Opium), Khikhis (Poppy seeds), Kasamba (Safflower), Mathi (Peangreek), Kavavain (Almond) etc.

Bhava Mishra is followed by Raja Madangala whose work called "Madana-Vinoda" is the second edition, as it were, of "Bhavyaprakash." He seems however to have augmented the list of Indian plants by some new names among which might be mentioned Akarakahi (Pellitory), Anjira (Fig), Pistani (Pistachio nut), Haridrana (Nuxtea cordifolia) etc.

Just about that time there flourished a learned physician named Tarhari, son of Chandeshvar, an inhabitant of Singhur in Cashmere. He wrote an excellent work called "Abhidhana Chudamani" or "Raja Nighanta" (Royal Dictionary of Medicines). The work...
was composed under the patronage of the King of Cashmere at the time and therefore no pains seem to have been spared to make it as useful and interesting as possible. According to some writers he lived in the seventh century after Christ, though the exact time of his birth is not known. His work is a glossary of medicinal substances with specifications of their virtues. He also describes the properties of different kinds of soil, the nature of soils suitable for the cultivation of various medicinal plants, classification of trees and their constituent parts, classification of cereals, oils, vegetables, roots, leaves, flowers, fruits, properties of fresh and salt waters, and gives besides, a mine of useful information. The work is very elaborate and is much valued by Indian Practitioners. The order observed by this writer in arranging the drugs, differs from that of his predecessors. He classifies the herbs into creepers, plants, trees, and grasses, and describes how each part of them is to be used medicinally. This writer makes mention of about a hundred new medicines not found in the works of his predecessors. A few names are given below:

Kandura (Gyrardiaia heterophylla); Brahmadandi (Tri-cholapis glaberrimi); Jinjhira (Trumpetta augu-
1.) Shodhala who came after Harhari wrote a treatise on *Materia Medica* bearing his name. He was a Gujarati Brahman by caste, his father being a physician named Nandana. His work is chiefly based on "Dhanvantari Nighanta", to which he has added about eighty drugs by actual experience in the forest such as *Hemanjaka* (Dipira orientali); *Vallipushpa* (Byrophyllum senitativum); *Kastamani* (Tristolochei bracteata); *Itkintaka* (Schinos echinatus); *Ihrinjara* (Solita alba) &c.

Vaidya Moreshwar of Ahmednagar in the early part of the seventeenth century incorporated in his "Kalyanmrit" some Persian drugs as *Isphgulu* (Plantago isphgala) and others.

In the beginning of the eighteenth century a well-known physician of Benares composed a large work called "Atanka-timira-bhaskara" which is a very useful work on the Indian healing art. In his chapter on *Materia Medica* he has not only availed himself of the labours of all who had gone before him but has thrown a new light on some of them. Tea is one of the few new drugs he has embodied in his work. His great grandson Vaidya Sohanji was one of the most scholarly and celebrated physicians in
Northern India. He died but very recently.

About the middle of the present century, that is to say in 1867, Pandit Vishvan Visunder Gardobe published a work called "Nighaata Ratanavara". It is a very popular work as it contains an epitome of all the previous treatises on Materia Medica supplemented by about fifty new herbs not referred to by the old writers. Among the new names we find Eliza-ka (Aloes); Andrasha (Pine-apple); Parua (Suva); Tanikha (Pococ); Rudiina (Kint); Medica (Hanai); Titafali (Custard apple) &c.

The virtues of the Indian drugs were known, not only in the country of their birth, but in other countries as well. Some five centuries before the Christian era, Hippocrates in his Materia Medica recommends several Indian plants mentioned in Sanskrit works of much anterior date, as for instance Sesium Indicum (Tilj), Valerii jatamansi (Jata- mansi), Boswellia thurifera (Kandura), Zingiber officinale (Shringavera), Piper nigrum (Marichi) &c.

In the first century of the Christian era Dioscorides, a Greek physician, thoroughly investigated the medicinal virtues of many Indian plants which were then taken to the market of Europe and incorporated them in his extant book of Materia Medica which for many ages was received as a standard
work. In the second century Claudius Galen, to whose writings the modern European science is indebted for many useful discoveries, published his famous work, the leading opinions in which, as to hot and cold medicines, were borrowed from India where they still prevail. Aetius, a physician of Mesopotamia, who flourished in the fifth century and whose works on the diseases of women are still extant in Greek, mentions some drugs as Nucæ Indiciæ, cocco-nuts, sandal-wood and other products of India. The Néglan physician Paulus Ugineta who is said to have first noticed the cathartic quality of Rhubarb, and who lived in the seventh century, refers to certain Indian herbs in his work. In the eighth century and probably in the century following the natives of India practised as physicians in Bagdad, employing many Indian drugs in their practice.

We find from the books written by Arabian and European travellers of bygone days that about 300 A.C. the Arabs, who were the most forward and enterprising nation at the time, used to bring various articles of merchandise to India from their own country and from countries lying on the east coast of Africa and took with them from the Malabar coast in Southern India, spices and medicinal drugs and
spread a knowledge of the articles in the adjoining countries of Europe. This state of things continued for a long time when the Medical Science of India was in its hey-day of glory. Every important town could then boast of one or more medical schools and the pupils used to accompany their teachers to the jungles to identify for themselves the various drugs mentioned in their books. The physicians in their laborious researches, were very liberally encouraged by the ruling chiefs — great and small — in all parts of the country. As long as they continued to receive encouragement from the Kings, the science flourished very well. Its decline dates from the Mahomedan invasions in the tenth century. The minds of both princes and people were distracted by these foreign invasions. They were chiefly engrossed in taking measures for opposing the invaders. There is no wonder then, that during such a state of unrest and disorder, the active minds should slacken their zeal for making further investigations in the Indian flora for want of sufficient encouragement. Far from following up the practical part of their study they had to rest content with the theoretical knowledge imparted by their books, and to depend on ordinary grocers for the supply of drugs required for their nostrums.
Then the Mahomedan power was firmly established in India, the Indian medicine received a rude shock. For the Mahomedians brought with them their own physicians called Hakims, who followed in their practice the Indian (Greek) system of medicine. Their system was, and is still, called Yunani (Greek). Under Imperial patronage the Hakims began to prosper at the expense of the Vaids who were gradually losing Court patronage. But even at the Mahomedan Courts the Vaids are recorded to have cured many intractable diseases which had baffled the skill of their foreign rivals. It is evident during the time of the Mahomedan rule, there were introduced into India some new drugs from Arabia, Persia and Afghanistan. Opium for instance, appears to be a native of Western Asia. It was first imported into this country from Arabia. Its spread in India is synchronous with the advent of Mahomedans, who had adopted it as a suitable substitute for fermented liquors which their religion disconantainces. Sharanghita and Vagbhatta refer to the medicinal use of this article which they call "Ahi-phena" or snake-foam probably from the belief that opium was not the concrete inspissated juice of the poppy obtained by incisions in the capsules, but a produce obtained from the foam of snakes. It is used in
diarrhoea and chronic dysentery and has the property of relieving pain and producing sleep. The European doctors seem to have learnt the therapeutic use of opium from Indian practitioners though Serenus Taurus has noticed opium early in the first century. Some more drugs which happened to be introduced into India during the Mahomedan rule are given below:

Alu (Prunus lacrimans) is used in bilious affections and fevers.
Badina (Illicium anisitum) is a Persian drug and its oil is applied to the joints in rheumatism.
Banafsha (Viola odorata) is used in bilious affections and constipation.
Gazabam (Ossea bracteata) is used in leprosy, hypochondrias and syphilis.
Gul-e-Jaundi (Chrysanthemum Roxburghii) is used as demulcent in gonorrhoea.
Kerba (Panitis succelifer) is antispasmodic and stimulant.
Khadiura (Phoenix dactylifera) is nutritious and used as desert.

The Musalman rule was supplanted by the English whose power was firmly established in India in the eighteenth century. The English brought with them
their own doctors who prescribed European medicines before which the indigenous drugs had gradually to give way. Hospitals and dispensaries on western models and the use of western medicines were encouraged in all parts of the country and native medicines came to be discarded in favour of ready-made preparations imported from Europe. This was a serious blow to India pharmacy. But Europe is simply paying back the debt it owed to India, because its Materia Medica includes many curative agents of Indian product such as:

_Aconitum heterophyllum_ (Ativisha);
_Alium sativum_ (Palaṇḍu);
_Ascorbic catechu_ (Kādara);
_Aloe arborescens_ (Varsāti);
_Algia aurora_ (Varīṣa);
_Ammi visnaga_ (Ghād);  
_Andropogon nardus_ (Ushira);
_Andropogon sehuanthus_ (Katutrina);
_Artemisia stenotaphra_ (Arvīdamani);
_Berberis lycia_ (Kārtharidra);
_Butea frondosa_ (Paliṣṭha);
_Cassia lanceolata_ (Gopanukhi);
_Cucumis colocynthis_ (Vadāvīrṇa);
_Datura Alba and Datura Niger_ (Dhāṭtura);
_Justicia indica_ (Atīraṇa).
Laffa amara (Kathakshatiki);
Lobna usitatissimum (Atagi);
Mallotus philippensis (Kapillika);
Myristica sapida (Katfala);
Opelia shiretta and Opelia augustifolia (Kirala);
Vinpocetta anisum (Choptushpa);
Houtamia gleba (Kurunja);
Ptychotis ajone (Ajanodi);
Ricinus communis (Sandra);
Salvia succulenta (Undursionska);
Santalum album and flavum (Ghandana);
Shorea robusta (Ajakara);
Strychnos potatarum and Strychnos aux vomica (Katakafala);
Tinospora cardifolia (Guduchi);
Valeriana Hardwickii (Tejara);
Wrightia antidysenterica (Indrapawo);
The Hindus from an early date have derived simple medicines from the ANIMAL Kingdom. Their number is very large. A few may be noted here—
Ashi (Bone) of a goat when reduced to ashes and mixed with other medicines and formed into an ointment is used for curing fistulae. Cattle-fish bones are also used medicinally.
Danta (Tooth) of the elephant is used in leu-
Dugdha (Milk) is nutritive and vitalizing. Human milk is light and strengthening and much used in eye-diseases. Cow's milk increases the secretion of semen. Buffalo's milk induces sleep when taken in large quantities. Goat's milk is sweet and light and is good in phthisis and blood diseases. Sheep's milk is hot and is believed to promote the growth of hair. Elephant's milk is used in eye-diseases. Mare's milk is used in rheumatism. Ass' milk is saltish and is used for curative cough in children. Camel's milk is laxative and is used in dropsy, asthma and scrofulous diseases. The properties of the milk are said to vary according as the colour of the animal is white, black, red etc., and according to the qualities of the pasture it grazes. The chief preparations of Milk are Dahi (Curds) used in diarrhoea; Pakka (Whey) which is refrigerant; Mayanita (Butter) used in constipation; Chhala (Clarified butter) is tonic, emollient and cooling; Malai (Cream) is strengthening. Garala (Venom of snakes) is used in dropsy. Tvak (Shia) which a snake periodically casts off is an insecticide and possesses several healing properties.
Jala (Cobweb) of a house-spider is a useful application for haemorrhage.

Jaluka (Bees) are applied for blood-letting.

Jeevika (Living creatures) such as Markha (Bedbug) cures quartain fever if swallowed. Similarly a fly is swallowed to cause vomiting.

Kusha (Hair) of a man when burnt and reduced to ashes is used in curing sores on skin. The burning of hair is also resorted to in driving away serpents.

Laatsha (Lac) is an incrustation made by an insect and is used in menorrhagia.

Mala (The secretion...flowing from an elephant's temples when in rut) has its medicinal use in exciting sexual desire. Similarly Kasturi (Musk) which is a dried secretion enclosed in the preputial follicles of musk-deer, is used in hysterical and similar disorders.

Madhu (Honey) is demulcent and laxative and is used both internally and externally. Hindoo writers describe eight kinds of honey, namely: Makshika secreted by big tawny bees and considered to be the best; it is used in jaundice. Bhramara is white and cures scurvy. Kshaudra is secreted by small tawny bees and is used in gonorrhoea. Pauktika is secreted by tiny black bees, is hot
in property and cures structure of arthra. Arthra can be hid on the Himalayas where the honey-comb is found in the shape of a Ghailra or umbrella, and is used in expelling worms. Ardhya is found in Mālwi and is very beneficial in eye diseases. Auddalaka is found in the ant-hills and is good for the voice. Tala is the juice exuded from certain kinds of flowers and collected on the leaves. This substance is a purely vegetable product and is mentioned here because the Hindoo writers have generally classified it with the other varieties of honey. It cures nausea. Honey of a particular kind of Rhododendron is poisonous and should be avoided.

Madhujana (Wax) is used in ointments and ointments. It is also given in the form of emulsion in diarrhoea and dysentery.

Kanda (Flesh) of a goat fried in oil is used in rheumatism. An essence of dove’s flesh is prescribed in paralysis.

Meda (Fat) from camel or hyena is considered a valuable local remedy for gouty joints.

Yukta (Pearls) is used in a powdered state for curing impotency and consumption.

Nūtra (Urine) is useful in curing various diseases. Cow’s urine is used both internally and
externally. It is prescribed in colic and many other diseases. Goat's urine is used in jaundice. Buffalo's urine is given in piles. Elephant's urine is used in curing blood-diseases. Horse's urine is prescribed in killing worms. Ass' urine in curing consumption and insanity; and Camel's urine in curing ring-worm. Human urine is used in curing cough and eye-diseases, and urine of a castrated bullock in curing anaemia and dysentery. Urine should be obtained from the female, but in the case of horse, ass, camel, and elephant, urine obtained from the male is generally recommended.

Nakha (Nail) of man is used in wounds and horse's hoof for fumigation in intermittent fevers.

Pichha (Feather) of a peacock is used in curing hiccup. It is also believed, that if a ring made of the copper extracted from the feathers be worn, it will prove an effectual antidote against snake bites.

Pitta (Bile) of fish and other aquatic creatures is used in fever and eye-diseases.

Pravali (Coral) is beneficial in cough.

Purisha (Dung) of a cow is used in inflammation and discolourations of the skin. It is occasionally given internally. In India it is used
in smearing the walls and floors as it is supposed to have disinfectant properties. Elephant's dung is said to cure leprosy. Dung of a domestic cock is considered beneficial in colic and of a goat in cutaneous diseases.

Chancha (Cowsh) is used in colicky pain and flatulence.

Chinga (Horn) of a stag is variously used as a medicine. Its paste is applied to sprains, contusions and fissures, and to the forehead in head-ache.

Varabha (Cowry) is recommended for enlarged spleen.

The MINERALS used in medicine by the Hindoos include: Metals, Isis, Salts, Precious Stones, Clay &c.

The Metals employed by the Aryan physicians are divided into two classes — principal and secondary. The principal metals or Dhatus are seven, namely—

Suvarna — gold, Raupya — silver, Tanka — copper, Musa — tin, Vishada — zinc, Sisaka — lead and Loha — iron. The 'secondary metals' (substances containing any of the principal metals or their compounds) possess the properties of such metals though in lesser degree, and are also seven. Their names are, Savardamakshika (yellow pyrites), Tara-
nakshika (white pyrites), Pattha (sulphate of copper), Kinaya (brass), Reeti (calcined zinc), Sindura (red oxide of lead) and Chilajita (bitumen).

Parada (mercury) is a metallic substance but is treated under the name of Rasa (pleasure) as its presence in the composition of medicines is supposed to afford great satisfaction to the Vaidyas. It is called the principal Rasa as distinguished from the Upa-Rasas or secondary rasas, which are Saadhaka (sulphur), Anagula (red sulphide of mercury), Abhaka (mica), Manashila (bisulphide of arsenic), Talaka (tarsulphide of arsenic), Sratanka (sulphide of lead), Tankana (borax), Kajavarta (lapis lazuli), Chumbaka (loadstone), Sratika (alum), Rasasa (sulphate of iron), Pasaka (carbonate of zinc) and Bodara (litharge).

The precious stones (Ratnas) used in medicines are also divided into two classes—principal and secondary. The principal gems are nine, their names being Heera (diamond), Caratal (emerald), Pushpaka (topaz), Agnedha (onyx), Vaibhava (catseye), Mukahta (pearls) and Pravala (ocean). The last two belong to the Animal Kingdom but are referred to here as being included in the ‘nine gems’. Among the secondary stones may be mentioned Surya-kaata (sun-stone), Chandra-kaata (moon-stone — a gem
supposed to be formed of the conjoined rays of the moon). Haritakya (crystal), Haritshrama (turquoise), Kacha (glass) and some others.

Certain kinds of sand and clay are in common use as healing agents such as Khatika (carbonate of calcium), Kardama (hydrous silicate of aluminium), Gopichandana (silicate of alumina), Bikata (silica) etc.

The principal saline substances used medicinally are Navasadara (chloride of ammonium), Gisadhya (chloride of sodium), Pamsahakshara (carbonate of potassium), Pavakshara (carbonate of soda), Gurasahara (nitrate of potash).

Besides the minerals already enumerated the Hindoos have from a very early period employed Jangala (sulfate of copper), Pamsahara (hydrated oxide of iron), Rashaasaheda (carbonate of iron and lime), Rashaadannapha (oxide of zinc), Rasasindara (sulfide of mercury), Rasakarpura (corrosive sublimate), Bhaskha-visha (arsenious acid) and several other metallic preparations.

The metals have been recognised as remedies by the Hindoos from pre-historic times. Vegetable drugs are universally used as therapeutic agents. But it should be remembered that preparations of vegetable substances do not keep well. The ancient
Aryans seem to have ascertained by practical experience that vegetable drugs as a general rule, lose their effect after a year; powders lose their strength after two months while pills and tinctures become ineffective after a year. Oleaginous preparations lose their potency after sixteen months. Under the circumstances the Aryans have, it is alleged, discovered retentive and lasting medicines which far from becoming weakened in effect under the influence of time, increase in strength in proportion to their age. They have described the method of transferring the properties of vegetable cures to certain metals which intensify their efficacy and make them last long. These metals are subjected to various processes of purification, oxidation, etc., so as to be rendered fit to be administered as medicines for various diseases. These compounds or Anasmas, as they are called, are supposed to be infinite times more effective than the vegetable drugs, and are always given in small doses. The number of physicians using mineral remedies is not large. For the general belief is, that the metals if not carefully and properly prepared do more harm than good. Those who are experts in the line can alone inspire confidence in their patients. The literature on metallic remedies is very voluminous.
among the Hindoos.

As has already been said, the metals before they are subjected to chemical action, must be purified in the first place. Different modes are prescribed for purifying different metals. One of the simple processes of purifying gold is to manufacture the metal into thin plates; make them red hot and then dip them into sweet oil; again heat the plates red; plunge them into whey; heat them a third time, cool them in cow's urine and sour gruel; repeat this process seven times and lastly dip the red hot metal into *kulatha* (a kind of vetch). The metal then becomes pure and free from all deleterious matter. It is then subjected to the process of "killing" or oxidation with the object of reducing it to *phasma*. The processes are many. One of them is thus described:—Let the purified gold be melted in a crucible with one sixteenth part of its quantity of lead; triturate the mass in lemon juice and make it into a ball; then coat it with powdered sulphur; put the bolus in an earthen pot and cover it with another vessel of the same size; cement the two together with a layer of white clay and put the same in the midst of fire made of twenty cow-dung cakes. When the fire is completely burnt out remove the mass from the crucible. Repeat the process
for seven consecutive days and then the metal becomes calcined and can easily be reduced to powder. This goldcalx is said to be a good tonic and is considered to cure nearly all diseases. It removes the effects of old age and restores the vigour of manhood; sharpens the memory, improves the voice and colour of the body, and promotes strength. It is stimulant and aphrodisiac.

Silver phisma is prepared in very much the same way and is highly recommended in sexual weakness and obesity.

The process of purifying copper is similar to that adopted for gold. When purified, boil the thin plates of the metal for three days in lemon juice. Add one fourth of its quantity of quick-silver and triturate the mixture. Then the mass is to be mixed up with two parts of sulphur and moulded into a ball which must be covered up with a layer of Pun-arnava (Boerhavvia diffusa) about one inch thick. Put this in an earthen pot and roast it in Valukiy-antra (an apparatus, see plate IV) for twelve hours. After taking it out of the fire put the mixture into the hollowed root of Shurana (Aram colocynnum); cover it with a coating of dung and clay and expose it to heat. This makes the metal fit for reduction to powder which is used in enlargement of the liver.
and spleen, and in gout and rheumatism.

In order to purify tin it must be first melted and then scaled three times in succession in oil, whey, Kanika (sour gruel), cow's urine and lastly in juice of Arka (Calotropis gigantea). Melt the purified metal in an earthen crucible; add to it one fourth of its quantity of the powder of tamarind and banyan tree barks. Stir and rub the mixture with an iron ladle. Mix with the powder in equal quantity of Palaka and triturate the mass in a sour juice. Expose it to fire; again add one tenth of its quantity of Palaka and again rub it and put it on fire. Repeat the process ten times until the metal is reduced to bhasma. This bhasma is used in urinary disorders and painful micturition; it also cures gonorrhoea and jaundice and diminishes fat.

The process of purifying lead is similar to that of tin. In order to make it fit for medicinal use cover the mass of purified lead with a coating of Manahshila macerated and rubbed in betel-leaf juice, put it on the fire and repeat the process thirty times when the metal will be reduced to bhasma of lead which is a vermicifuge and is recommended in chronic diarrhoea.

The method of preparing the zinc bhasma is the
some as that employed for tin. The medicine is a
nervine tonic and is used in cholera and epilepsy.

Iron is purified by exposing it to the fire of
a furnace and quenching it three times successively
in oil, kanjika, cow's urine and kulatha. Mix with
it one-twelfth of its quantity of hingula; rub the
mixture for six hours in the juice of chitrakumari
(indian aloes); expose it to the fire of jalaputa
(a square hole dug in the earth about two feet deep
and two feet wide, filled in with cow-dung cakes in
the midst of which the earthen vessel containing
the metal to be roasted is put). After repeating
the process seven times iron can easily be reduced
to ashes and used in hectic fever, anemia, dropsy
and brain diseases.

Precious stones before becoming fit for medici-
nal use are subjected to the process of purifi-
cation and calcination, like the metals. Diamond
bhasma is supposed to contain many wonder-
ful properties. To purify a diamond put it in the
hollow of a zygadri (Solanum indicum) root covered
over with buffalo's dung. Keep it over a fire dur-
ing the whole night and quench it in horse's urine
in the morning. Repeat the operation for seven days.
Thus purified it is heated and cooled in a deco-
tion made of asafetida, haj salt and gudal.
Repeat the process for twenty-one days and diamond bhasma is prepared. It improves the colour of the body and cures many diseases. It will be interesting to note here that the Hindoos distinguish four kinds of diamond, differing from each other in appearance and property, called Brahma, Kshatriya, Vaishya and Shudra, names derived from the castes in which the Hindoos are arranged. The Brahma diamond is of clear white, the Kshatriya of reddish colour, the Vaishya is yellowish and the Shudra diamond is of a smoky colour. A diamond which is perfectly shaped, lustrous, big and without a stain is called a Putrsha or a male diamond. It is considered to be the best as far as its medicinal use goes; it restores vigour and can be prescribed to all with advantage. That which exhibits stains and cracks and which is hexagonal is distinguished as a female diamond and its bhasma is beneficial to females only. Diamonds that are long and triangular are neuter and considered powerless.

But of all the minerals mercury is considered to be the most important by the Indian physicians. Marvellous powers are attributed to it and it was no doubt known to the Romans and Arabs who employed it as a medicine externally, but the Hindoos seem to be the only people who prescribed it in-
Kasa. It is found in many parts of India and was known to the people from a very early date. Being a volatile substance it sometimes becomes unmanageable for purification and "killing" without a good deal of care and patience. But if once brought under subjection, it proves, it is said, an invaluable medicine for curing some of the most obstinate diseases. The Hindus use various contrivances called Kantha for the preparation of mercury as a remedy. These Kanthas are known by the names of Brahmr, Urdhreshalaka, Vatika, Bhusara, Dala, Kalaka, Kanhi, and many others. For diagrams of some of them see Plates I.-IV. For medicinal purposes mercury should be purified before use. There are various methods of doing this. One of them is thus described by Sharugdharas:— Rub mustard seeds and garlic together until reduced to the consistency of mud. Make two small cups of the mass. Put mercury in one cup, the other cup to be linted over it. Dry it in the sun. Tie the vessel in a piece of cloth, suspend it for three days in an earthen pot filled with Kanji and placed on fire. Take out the mercury from the vessel and comminute it for one day in Pankahari juice; another day in a decoction of Shitaka (Phytolago Zaglantes), for the third day in one of Kakasachi (Coccus Indica) and the
fourth day, in that of the three Mercury. Wash the mass in Kangika to separate the mercury from it. Again put the metal in a mortar containing half its quantity of bay salt and triturate it for a whole day. Mix an equal quantity of mustard seed and rub the mass in a rice-husk deposition. Repeat the whole process with garlic and then with salasmonice. mould the lump in the form of a lozenge and let it dry. Apply to it asafetida all round and place it in a apparatus called Magarn (see Plate I). Here under the influence of fire mercury will "fly up" and stick to the concave part of the covering vessel. That mercury is supposed to be entirely pure. In order to make it more effective take equal parts of dry ginger, black pepper, long pepper, carbonate of potash, barilla, "the five salts" (bay salt, table salt, Sgebra salt, black salt and hide salt), garlic, salasmonice, bark of the horse radish tree (Shikak) and mercury; powder together the dry ingredients and then add the mercury and thoroughly mix them together, triturating it for a whole day and night in Kangika or in lemon juice in Tabla Kharija (Plate III). This process is called "Mukha-Karma" which means literally, the formation of a mouth, for mercury is then able to absorb any purified mineral mixed with it. But it
is not supposed to have acquired full strength un-
til it is able to absorb or "imbibe" an equal, or a
double, triple or even quadruple its quantity of
prepared sulphur. The mode of reducing it to jharna
is to triturate the purified mercury in betel-leaf
juice, scoop out the interior of jarkuti root
(Dragia volubils) so as to form a cavity which
must be filled with the triturated mass, close the
mouth of the cavity and place the thing in an
earthen vessel, put a lute or coating of mud and
cloth over it and put the same over a fire. Mercury
will then be fit to be reduced to jharna. There are
other processes more or less intricate requiring
the use of various yantras.

Many treatises have been written on the wonder-
ful power of jharna or Mercury. The followers of a
religious doctrine in India called Raseeshism con-
sider Mercury as one of the manifestations of God.
It is generally believed that the combination of
mercury with other metals adds considerably to the
intrinsic powers of these metals as useful remedies.
Paracelsus of Hohenheim who is known in Europe as
"the Reformer of Medicine" in referring to the
Yoga of India says that "these are extremely long-
lived, every man of them living to 150 or 200 years.
They eat very little, rice and milk chiefly. And
these people make use of a very strange beverage, a potion of sulphur and quick-silver mixed together and this they say they drink twice every month.... This they say gives them long life." The yogis of India, as we have said, are supposed to have their own method of prolonging life to a wonderful extent by regulating their breathing. By a careful attention to the rules of conduct, diet and ways of thought as well as by the adoption of certain postures for regulating their inspirations and expirations the yogis of India are said to enjoy perfect health and happiness. They do not make use of certain medicinal drugs to stave off hunger and thirst, without detriment to their health and knowing its marvellous powers they occasionally use Farada (mercury) during their austere practice. Sulphur being an indispensable ingredient in the preparation of the drug, Paracelsus is right in alluding to "a potion of sulphur and quick-silver." This "Luther Alter" as he is called, flourished in the sixteenth century and had himself a great faith in mercury, for his principal mixture was styled "Mercurius vitae." To mercury, when freed of all traces of lead, tin and other impurities, is ascribed the virtues of curing eighteen kinds of leprosy, and eye-diseases, fevers and impotency, and
its Dhassu is credited with the power of prolonging life. As a therapeutie agent it is believed to be matchless.

Medicines prepared from the vegetable, animal and mineral products are exhibited in various forms. Some are used externally and some internally. These include:

Aajana (eye-salve), Asava (tincture), Avaleha (electuary), Basti (injection), Bhassu ("alkaline ashes"), Bhang (drops), Chukra (vinegar), Churra (powder), Dhumasa (inhalation), Dhurra (fumigation), Dravya (acid), Dravasveta (medicated bath), Fasuka (infusion), Gandusha (gargle), Ghrika (ointment), Guliya (pill), Hima (watery extract), Kalka (paste), Kanjika (gruel), Kaviika (suppository), Katika (decotion), Lepe (plaster), Modaka (bolus), Nasya (snuff), Pakha (confection), Panaka (syrup), Peva (emulsion), Pindi (poultice), Ploti (lotion), Safya (extract), Sehuna (spray), Shraddhaseva (blood-letting), Shrutambu (cold water in which a very hot piece of brick or iron is quenched), (Shukta (ferment), Sveda (vapor), Svarasa (expressed juice), Taila (oil), Udvarthana (laxative), Upanaha (fomentation), Valika (lozenge) and Vartika (bougie)

The weights and measures employed in the prepa-
ration of medicines and in the prescription of
doses have been referred to by the ancient Hindu
writers and they are still adopted by the modern
physicians, though the standard of weights pre-
vailing in India varies in different parts. Sharaka gives the following table for weights and
measures:

<table>
<thead>
<tr>
<th>Weight</th>
<th>Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 trasrenus</td>
<td>1 marichi;</td>
</tr>
<tr>
<td>3 marichis</td>
<td>1 rajika;</td>
</tr>
<tr>
<td>3 rajikas (mustard seeds)</td>
<td>1 sarapa;</td>
</tr>
<tr>
<td>3 sarapas</td>
<td>1 yava;</td>
</tr>
<tr>
<td>4 yavas</td>
<td>1 junja;</td>
</tr>
<tr>
<td>5 junjas</td>
<td>1 mashaka;</td>
</tr>
<tr>
<td>4 mashakas</td>
<td>1 shana;</td>
</tr>
<tr>
<td>2 shanas</td>
<td>1 kola;</td>
</tr>
</tbody>
</table>
| 2 kolas | 1 karsha (one tola or
| | six rupees weight); |
| 3 karshas | 1 ardhavapada; |
| 2 ardhavapadas | 1 pala; |
| 2 palas | 1 prasrutti (handful); |
| 2 prasrutis | 1 anjali; |
| 2 anjalis | 1 maika; |
| 2 manikas | 1 prastha; |
| 4 prasthas | 1 adhaka; |
| 4 adhakas | 1 drona; |
| 2 dronas | 1 surpa; |
12 sarasas = 1 droll;
8 drolls = 1 kharī;
100 palas = 1 tula (100 tolas);
2000 palas = 1 bharī.

Weights and measures used in Balīnga, — country along the Coromandel coast, north of Madras, — are thus described:

12 sarasas = 1 yava (barley-corn)
2 yavas = 1 gunja;
8 gunjas = 1 vala;
8 gunjas = 1 masha;
4 mashas = 1 shaha;
3 mashas = 1 gadiana;
10 mashas = 1 karsha;
4 karshas = 1 pilla;
1 palas = 1 kudava.

The weights and measures now in vogue in Gujarat and Kathiwar are:

3 chochas (rice-corns) = 1 rati (about 2 gms);
5 ratis = 1 vala;
13 valas = 1 gadiana;
2 gadianas = 1 tola (one sicca rupee weight);

3½ tolas = 1 adhola;
2 adholas = 1 navataanka;
2 navataankas = 1 passer;
2 paseers ............... = 1 adheer;
7 adheers ............... = 1 seer;
10 seers ................. = 1 maund.

The fluids are measured by a vessel of bamboo, wood or iron, four fingers wide and as many deep, containing twelve handfuls and the fourth of a pristhi. It is called "Nidana".

After describing the principles and practice of medicine under the head of "Sutrasathya" the early writers on medicine have devoted their thought and attention to the investigation of the causes and symptoms of diseases which they call Nidana. Among the Hindoo writers Vachshana has investigated at length, the causes and symptoms of the largest number of diseases in all their varieties. To this head Sushruta has devoted sixteen chapters treating of the classification, causation and symptoms of diseases, such as diseases caused by wind, hemorrhoids, urinary calculi, fistula, diseases of skin, urethral discharges, abdominal tumours, abortion and unnatural labours, abscesses, erysipelas and carbuncles, tumours, scrotal tumours, fractures and dislocations, diseases of the male organ of generation, diseases of the mouth and minor diseases. Thiragdrha enumerates eighty principal diseases caused by wind, forty by derangements of bile.
twenty by abnormalities of phlegm and ten by faulty conditions of blood. Sushruta traces all diseases to one or other of the following seven causes:—

(a) corrupt semen virile or semen of the father and mother respectively, causing leprosy &c; (b) indulgence in forbidden food by the mother during pregnancy, or the unsatisfactory of any of her desires during that condition, causing blindness &c to the child; (c) the derangement of humours in the body, causing fever &c; (d) accidents, as fall, snake-bite &c; (e) variations in the climate, causing cold &c; (f) superhuman agencies; (g) nature, as hunger &c.

Harita reduces the number to three and says that diseases are caused by Karma or by the derangement of the humours or by both. Karma is the unavoidable consequence of good or evil acts done in this or past existence. Misery and happiness in this life are the inevitable results of our conduct in past life and "our actions here will determine our happiness or misery in the life to come. When any creature dies he is born again in some higher or lower state of existence, according to his merit or demerit." So there are certain diseases which are supposed to be the fruits of evil deeds done in a former state of existence. Harita declares that i
murderer of a Brahman suffers from anaemia, a cow-killer from leprosy, a regicide from consumption, and a murderer in general from diarrhoea. One indulging in sexual intercourse with his master's wife suffers from genitaebna and with his preceptor's wife from retention of urine. A back-bitet suffers from asthma, a misleader from giddiness, a cheat from epilepsy. one who occasions or procures abortion from liver complaint, a drunkard from skin-diseases, an incendiary from erysipelas and one peeping into another's secrets becomes monoculo- us. Diseases caused by karma may be cured by propitiatory rites, expiatory ceremonies and tranquilizing efforts. If the rites do not cure the diseases the patients have the assurance that the same will check the further progress of the diseases in the life to come.

The treatment of diseases caused by humours forms part of Shikitsa or therapeutic branch of Hindu medical science. The Aryans have treated and prescribed remedies for different diseases such as abdominal tumours (of eight varieties); abortions (of six kinds); abscesses (of six kinds); anaemia; anorexia; apoplectic diseases; asthma; blood and bile affections of the eye; carbuncles (of nine varieties); cholera; polio (of eight kinds); con-
vulsions; cough; cranial diseases; cystic affections; diabetes (of eight varieties); diarrhoea (of seven kinds); discharges (of ten sorts); diseases of the abdominal glands; diseases of the cornea; diseases of the ear; diseases of the eye, eye-balls and eye-lids; diseases from excessive drinking; diseases from excessive thirst; diseases of the heart; diseases of the legs; diseases of the male genital organs caused by Shuka or water leeches (of twenty-four varieties); diseases of the margin of the eye-lids; diseases of the mouth (of seventy-four kinds); diseases of the urinary organs; diseases of the vision; diseases of wind (of eight varieties); dropsy; dysentery (of five kinds); dyspepsia; ectropium; enteric enteritis; entozoa; epilepsy (of four varieties); erysipelas (of nine kinds); fevers (of twenty-five varieties); fistulae (of eight sorts); fractures (of eight kinds); general debility; gonorrhoea (of twenty varieties); hemorrhoids (of eight sorts); hiccup; insanity (of four kinds); insensibility (of four kinds); jaundice; mental debility; nose affections; various forms of paralysis; phlegm affections; piles (of six sorts); pustules and sores caused by urethral discharges (of ten varieties); rheumatism; scrotal tumours (of seven kinds); skin diseases (of eighteen
varieties); swellings (of nine sorts); sympathetic
diseases; traumatic affections of the eye-ball;
tumours; ulcers (of fifteen varieties); unnatural
ulcers; urinary calculi (of four kinds); virile
infertility; vomiting; warts; worm diseases (of twenty-
one varieties); wounds (of eight kinds); and minor
diseases (of sixty varieties). Diseases of women
and children are treated under the head of "Kuman-
Bhritya" and symptoms and treatment of diseases
supposed to be caused by superhuman powers are
described under the head of "Bhutavidya".

The treatment of poisons and their antidotes
come under the head of "Kaya". Poisons are of two
kinds, namely Sthavara — vegetable and mineral
poisons — and Janaka — animal poisons. Dhatura,
arsenic and others are Sthavara poisons and are
cured by emetics, purgatives, ehrhines, collyria
and antiphlogistic treatment. Janaka poisons in-
clude snake-bites and bites of mad dogs, jackals,
foxes, wolves, bears, tigers, scorpions, venomous
lizards, spiders, insects etc. Various antidotes are
given for different bites. Both kinds of poisons
are used as medicines by the Hindoos. Sometimes
one poison is used as antidote against another —
Vishaya Vichara Pushtadhana — is the dictum is — by
administering a Sthavara poison to one suffering
from the effects of a \textit{Jangama} poison and vice versa.

A curious antidote is suggested by one writer, who says that the beating of a kettle-drum besmeared with a preparation called "\textit{Ksharagad}" before a person under the influence of poison, has the efficiency of effecting a cure!

In diagnosing a disease the Hindu physicians have, from an early date, depended on the examination of the patient's pulse, urine, evacuations, tongue, eye, appearance, voice and touch. Of the eight methods, the examination of the pulse is considered the most important as furnishing the best criterion of the phenomena and progress of disease. In order to know the precise character of the pulse the radial artery at the wrist is usually chosen. In case of a male patient, his right pulse is generally felt and in case of a female the left. In feeling the pulse, the physician is to note its rhythm, its degree of quickness, slowness, hardness, softness, fullness or wiriness and the different impressions it produces on the fingers. If it feel like the creeping of a serpent or a leech, wind is supposed to be predominant. If it be jumping like a frog or is similar to the flight of a crow or sparrow, it indicates the predominance of bile. When it strikes the finger slowly and resembles the stru...
tity of a "owl" or peacock, it indicates the increase of phlegm. The pulse which is similar to the running of a partridge, is called delirium pulse. Irregular pulse indicates delirium tremens, and pulse which is almost imperceptible, depressed, irregular and extremely languid is a precursor of death. Pulsations in one suffering from fever or morose passions, are quick and in a healthy man they are neither unusually hard nor unusually soft but of medium strength and perfectly regular. The capriciousness of the pulse produces other modifications very curiously described. It is interesting to note the similarity between this description of the pulse as found in the ancient Sanscrit treatises, and the doctrine of the pulse taught by the Roman physician Galen "who is the greatest and the best authority in Europe on the subject. For all subsequent writers have simply transferred his teaching on this subject bodily to their own works." (Dr Berdoe). Galen speaks of 'pulsus myurus' (sharp-tailed pulse, so called as it sinks progressively and becomes smaller and smaller like a mouse's tail); 'pulsus formicans' (ant-like pulse, being scarcely perceptible, like the motion of an ant); 'pulsus derogatias' (goat-leap pulse, as it seems to leap like a goat); 'pulsus fluctuans' (undu-
laia

would suggest that Zule derived his knowledge on the subject from the works of Indian writers.

After making the diagnosis, the physician ought to know whether the disease he is called upon to treat is curable or not. Diseases are divided into three classes, namely Sadhya (curable), Asadhyā (incurable) and Ayā (controllable by remedies only). A patient suffering from a disease belonging to the last class remains well as long as he continues medicine, but relapses as soon as the treatment is stopped just as a tottering house begins to collapse by the removal of the props. The physician is advised to refrain from treating a disease which is quite incurable. The other two classes of diseases should be treated with all possible care and skill. In order to acquire success in his profession, the physician is expected to know both the theoretical and the practical sides of the medical science. In the opinion of Sushruta, he who has merely learnt the principles of medicine and received no practical instruction loses his presence of mind when he sees a patient, just as a coward gets confused in a battle. On the other hand, he who through mere empiricism has obtained facility in practical work but knows not the principles of
medicine as taught in the books, does not deserve
condemnation from the learned but punishment from
the King. Both these are unaccomplished and unfit
to become practitioners, just as a bird with a
single wing is unfit to fly.

A physician is always required to be clean and
tidy. For it is said that a physician who is dirt-
ily and shabbily clad, conceited, foul-tongued,
vaing and goes to a patient unmasked, is not
respected, even though he be as clever as Dhan-
tari. He should have his nails pared and his hair
dressed, should have clean clothes and carry a
stick or an umbrella in his hand, wear shoes and
have a gentlemanly bearing. He must be pure-minded,
guileless, pious, friendly to all and devoted to
truth and duty. His chief duty is to treat his
patient honestly and without desire of any gain. To
treat a patient conscientiously is supposed to
bring "merit" to the physician, who should not
therefore sell his "merit" (punya) by treating a
poor patient for the love of lucre. For the sake of
his livelihood he will be justified in expecting an
adequate fee from well-to-do people. He who is in a
position to pay his doctor's fee but does not,
though under his medical treatment, is styled
"wicked" and is said to transfer all his "merits" to
the physician. A religious sentiment appears to have been attached to the question of payment. For the Hindoos are enjoined not to approach or interview a King, a preceptor and a physician 'empty-handed', that is without a gift or offering. It is therefore aptly said that a country is not without men; men are not without diseases; so a physician's livelihood is always insured. One knowing one hundred remedies for any one disease is called a Vaidya, one knowing two hundred remedies for any one disease is called a Bhishak, and to one who is acquainted with no less than three hundred remedies for each and every disease is applied the term Dhanaatar. The knowledge of diseases and the knowledge of the drugs are of equal importance to a physician. One without the other is like a vessel without a helmsman.

Omens are carefully watched by the Hindoo physicians before attending their patients. The favourable omens when accidentally met with, are kettle-drums, labour, coach, umbrella, cow with calf, virgin, woman with baby, two Brahmas, fish, horse, skylark, peacock, deer, mongoose, elephant, fruit, milk, flowers, dancing girl, smokeless fire, flash, spirituous liquor, sword, shield, dagger, washerman with dry washed clothes, curdled milk, curdels.
Flip, full water pot to. The unlucky omens are fuel, hide, grass, smoky fire, snake, sheep, rice-cotton, human woman, oil, colisses, enemy, qu nerve people, one besmeared with abatement, scavenger, curd, butter-milk, mud, wet clothes, mendicant, ascetic, beggar, lunatic, one-eyed person, corpse, crow, jackal, empty water-pot to. These omens are observed with a view to enable the physician to prognosticate the favourable or unfavourable result of his attendance. If the messenger who is sent to call the doctor sees on his way any of the good omens enumerated above, it is bad for the patient; if he sees any of the bad ones it codes good for the patient. A male messenger is good in case of a male patient and a woman in case of a female patient. A widow or a mendicant is not considered to be a desirable messenger. The messenger should be of good breeding, without any bodily deformity; clever, clean dressed, driving a horse or a bullock carriage and holding white flowers and fruits in his hand, better if he be of the same caste as the sick person. When a physician in himself a qualified practitioner, well knowing the virtues and properties of the drugs, his work becomes much easier if the messenger who comes for him is exact in his description of
the disease. If the person attending the patient is careful in giving the medicines at the stated time and if the patient is reasonable enough to follow the directions of the physician and never to question the efficacy of the medicines prescribed by him.

Next to drum, the Hindu physician seeks to derive some assistance from his knowledge of onirocrites and astrology to ascertain the probable result of his treatment. Everybody may be said to have experienced a dream, but few can say how the body in that state affects the mind and how this affection produces the phenomena of dream. The classical writers like Artemidorus, Macrobus and Thomas Aquina have in their works tried to solve the problem and to establish the relation supposed to exist between the dreams and the events which they sometimes predict. The Indian writers too have endeavoured to throw some light on the question. This however is not the place to discuss their theory. Suffice it to say that the Indians have recognised dreams as the result of a state of life distinct from the waking and the sleeping states, having at the same time a subtle connection with both. Assuming this to be the case the Hindu practitioners believe they can derive useful indic-
tions from the dreams of their patients. Dreams are according to them, sometimes caused by wind, bile, fear, disability and secretions of urine. These are distinguished from those which are supposed to be prophetic and symbolic in their character. To ride a camel or a buffalo, to embrace a corpse or a mendicant, to see one's dead relatives or find oneself besmeared with oil, to eat boiled food or drink milk or oil, to see raw cotton, ashes or bones, to discover a bare-headed black person riding a donkey and going in a southern direction, to find oneself drenched with red flowers, all such dreams are considered bad. A healthy man dreaming of these things will get ill while a sick person will get worse. On the other hand if one dreams of seeing a living king, friend or a Brahman, sacred places, muddy water, mountains, rivers, elephants, horses, bees, leeches, or cows, or finds himself covered over with filth, blood or flesh and sees his own end approaching he may hope to be prosperous if healthy and to recover from sickness if ill. It is an unfavourable dream if a man suffering from fever associates with a dog, a consumptive man sees an ape, a lunatic a demon, one suffering from gonorrhoea, diarrhoea or dropsy water, or one subject to epileptic fits a dead body. If a leper drinks oil in
treat, or one with abdominal tumour: dreams of eating vegetables, and one suffering from colt of eating bars, if one subject to asthma travels in dream or one subject to leucotomy dreams of eating yellow food the results are equally unfavourable. The Indians believe in a goddess called "Gyapeshvari" or goddess of Dream, who is supposed to reveal certain events to her votaries in dreams. Remedies are prescribed for averting, as far as possible, the evil effects of dreams.

Astrology is considered to be a help-meet to the medical science. The Aryans have from pre-historic time placed their faith on the influence exercised on mankind by the nine planets, namely the Sun, Moon, Mars, Mercury, Jupiter, Venus, Saturn, Rahu (the Moon's ascending node) and Ketu (the Moon's descending node). They believe in common with many other nations that these heavenly bodies rule the destinies of men and nations, and alleging to possess a knowledge of their relative influence on the actions of each individual, they profess to be able to penetrate into his present, past and future. Their predictions may sometimes by a curious coincidence prove to be true. Mr Proctor says "that of all the errors into which men have fallen in their desire to penetrate into futurity, Astrology is the
most respectable, we may even say the most reason-
able." (Our Place among the Infinites). It is also
asserted that modern astronomy owes a good deal of
its early progress to astrology. Kepler in his pre-
face to the Rudolphine Tables calls Astrology "a
foolish daughter of a wise mother to whose support
and life the foolish daughter was indispensable".
The rulers of the "daughter" have their own rea-
sions to urge in her favour. It is beside our pur-
pose to undertake to decide whether astrology is
bien or a scientific truth or is a relic of old
superstition. Our present object is simply to re-
cord the fact that the Indian physicians are in the
habit of consulting their patients' horoscopes when
ordinary remedies fail to effect a cure. The malig-
nant planets are appeased by various means. Mrs.
for instance, when he enters the house of the sick
subject the patient to blood-diseases! His evil
influence is averted by reciting a certain sacred
verse, by the gift of a red bullock to a learned
Grahama, and by an oblation of clarified butter in
fire. Certain baths and wearing of a coral ornament
are also recommended under the circumstances. Di-
ferent positions of the planets in the patient's
horoscope are believed to have different effects
and the remedies vary accordingly. Predictions as
regard the method of its being cured, or not, are now and then hazarded by certain kalyias by knowing the day of the fortnight or the day of the week on which the disease manifested itself. There are two opinions on the point as indicated in the following table. The Roman numerals show the 1st, 2nd, 3rd, 4th day of the Hindu fortnight and the Arabic numerals one below the other, show the number of days the disease will last (according to the two different authorities) if contracted on the day noted. The 0 indicates a fatal result.

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Thus a disease beginning on the first day of the fortnight will last for fifteen days according to
one writer said ten days according to the other. If contracted on a Sunday it may last for thirty days or end fatally.

It has already been stated that certain kinds of diseases are believed to be caused by "damned spirits all that in cross-ways and floods have burial." The demon theory of disease has been a prevalent feature in almost every popular creed. It is no wonder then, if the ancient belief has some influence on the modern writers of medicine according to whom the malignant spirit, if willingly or unwittingly provoked, enters the body of the offender dooms him to various ways and afflicts him with certain kinds of diseases. Harita describes ten kinds of demons. Their names are, Agneya who frequents cross-roads and burial grounds and under whose influence the patient looks intensely terrible and angry; Mehitli who is found near ant-hills and makes his victim either stand still or violent; Nara frequents battle-fields and makes his victim excited; Varuna haunts lakes and rivers, his victim looks like a dumb creature with watery-eyes; Varuna resides in whirlwinds, and the person possessed of him cries and shakes and feels otherwise excited; Karun makes his victim rich and conceited,
exhibiting a passionate desire for ornaments: Aie- 
thand haunts temples and under his influence the 
patient applies ashes to his body and moves about 
naked; Agraheha dwells in empty houses and dry 
wells and one possessed of him cares not to eat or 
drink or listen to anyone; Pishchha haunts dirty 
and unholy places, and his victim cries, sings, 
raves and wanders naked like a mad man.

Various kinds of medicinal and magical treat-
ments are prescribed for demonic possessions. 
Sometimes amulets are tied round the neck of the 
patient. Here are specimens of four amulets gene-
 rally used among the Hindoos for curing demonic 
and other diseases.

\[
\begin{array}{cccc}
39 & 66 & 96 & 78 \\
11 & 44 & 32 & 34 \\
23 & 93 & 28 & 94 \\
46 & 26 & 4 & 64 \\
\end{array}
\]

The first figure, in which some mystic letters are 
usually written, is used for exorcising a devil; the 
second figure is used for piles, the third for 
quitting a weeping child and the fourth for fevers.

Hindoo physicians go out to procure medicinal 
drugs on Thursdays, Fridays, Sundays and Wednesdays 
of the light fortnight, and commence the pre-
paration of mineral medicines on Wednesdays. Thun-
days and Fridays. It is customary with some Vaishyas not to prescribe on Mondays, Wednesdays and Saturdays — the first being looked upon as particularly objectionable. Patients on the other hand avoid commencing treatment on Mondays, Tuesdays and Saturdays, if they conveniently can. For purgatives or antiscorbutics Tuesdays, Thursdays and Sundays, and for blood-letting Tuesdays and Sundays, are generally preferred.

According to Shasruta human life is either long, medium or short. A long life may last for a hundred and twenty years; a medium life for seventy and a short life for twenty-five years. He whose hands, feet, sides, back, nipples, teeth, mouth, shoulders and forehead are large; whose fingers, breath, are- sight and arms are long; whose brow and chest are broad; whose legs, genital organ and neck are short; whose voice and navels are deep and vigour great, who has hair in the ears, whose head is protruding backward; whose joints, veins and arteries are buried in flesh; whose limbs are strongly built; who is cool and collected; who is free from disease and whose body, intellect and experience grow gradually — such a man is expected to enjoy long life.

He who has two or three wrinkles below his eyes;
whose legs and ears are fleshy and whose nose is turned up reaches a medium age. And one whose fingers are short, whose genital organ is long, whose back is narrow, the gums of whose teeth are observable when speaking and laughing, and whose look is bewildered is expected to live a short life. Sushruta also devotes a chapter to the description of what should go to make a symmetrical body.

Just as the outward form and bearing are supposed to enable the Indian physicians to presume how long the person may be expected to live, there are certain signs and indications which it is believed enable them to conjecture when the inevitable death might overtake him. Thus if the breath flow through a man’s right nostril continuously for one whole day he will die after three years; if for two days he will die after a year, and if it continuously flows from the same nostril for three days he will not live more than three months. If he breathes through the left nostril rapidly during the day and not at all during the night he will die within four days. Again he who simultaneously breathes through the two nostrils for ten days together will live for three days only. He whose right pulse is intermittent and whose left nostril
seizes to work will die at once. If his nose becomes bent and if he is obliged to breath through the mouth instead of through the nose he will live for thirty hours only. If one naturally dark suddenly becomes yellow he will live for two months. He whose teeth, lips and tongue become dry, and eyes and nails black, and to whose yellow, green and red colours appear black will live for six months. He who sneezes at the time of sexual orgasm and passes urine with the emission of semen will die in one year. One passing faces simultaneously with urine will live for one year. If one's hands, feet and chest dry immediately after coming out of the bath, he will live for three months. A lean man suddenly becoming fat or a fat man suddenly becoming lean with a great change in his nature will die in six months. One unable to see the tip of his tongue will die within twenty-four hours. A miser becoming suddenly extravagant and charitable will not live more than six months. If half the body of a person remains warm and the other half cold and if he has lost the power of hearing he will die in a week. The duration of life is also ascertained by looking at the sun's reflection in a plate filled with water. If the patient finds the reflection entire and unbroken, he may be expected
to recover soon: in case he finds it broken towards the south he will die in six months, if broken towards the east he will live for two months. If he finds it broken on the northern side he will not live more than three months, if on the eastern side he will die in a month. If he sees a hole in the centre of the reflection he will live for ten days only and if he sees it surrounded by smoke he will die the very day.

It has been stated before that one of the eight departments of Ayurveda is Shalya, or Surgery. In the work of Sushruta it occupies the first place. Medicine and Surgery, though parts of the same science, are treated as distinct branches. Charaka, Atrayu, Harita, Agnivesha and others are accepted as guides more in medicine than in surgery by medical practitioners, while Dhanvantari, Sushruta, Acharangav, Aurachra, Paushalavata and others were more surgeons than physicians, having written elaborate works on the art of healing by mechanical and instrumental means. In a case requiring surgical operations, the physician says to his patient "atra Dhanvantarinsa achikaras krija vijaya" meaning: "It is for the surgeon to take in hand this case." It is true the ancient surgery could not have reached that perfection to which the modern science has at-
Instead. The operations of modern surgery are admitted on all hands to be prodigious, but that should not detract from the credit due to the ancients. The stock of surgical instruments and appliances used by the ancients was no doubt very small and meagre as compared with the armamentarium of a surgeon of the nineteenth century. The reason assigned for this fact is that the instruments they used were enough for their requirements and that their acquaintance with the properties and virtues of drugs was so very great that most of the diseases and injuries now dealt with by the surgeon, were then cured medically. An abscess for instance was either made to subside by certain kinds of plaster or the swelling was assisted to subside by means of positions. The said when ripe, was opened, not always with the knife but by the application of a mixture of Dasti, Chital, Branda and some other drugs. Cases of urinary calculi were treated with antilithiatic, and diuretics were administered so as to act as solvents for the stone, and thus the necessity of an operation was, if the patient so desired, obviated. It was only in rare cases and for effecting a speedy recovery or relief that they had recourse to surgical operations. And yet their earliest works mention no less than one hundred and
twenty-five surgical instruments for ophthalmic, obstetric and other operations. They were experts in forming new ears and noses. This operation has been practised for ages in India where cutting off the nose and ears was a common punishment for criminals, and "our modern surgeons have been able to borrow from them (Hindoos) the operation of rhinoplasty" (Weber). On this subject Dr Hirschberg of Berlin says, "The whole plastic surgery in Europe had taken its new flight when these cunning devices of Indian workmen became known to us. The transplanting of sensible skin clays is also an entirely Indian method." The same writer also gives credit to the Indians for discovering the art of cataract-picking "which was entirely unknown to the Greeks, the Egyptians or any other nation." The cataract operations are, it is said, performed by Indian practitioners with great success even to this day. The Hindoos were also experts in performing amputations and abdominal section. They could set fractures and dislocations in man and beasts, reduce hernia, cure fistula-in-ano and extract foreign bodies. Inoculation for small-pox seems to have been known to them from a very early age. Long before Edward Jenner introduced the practice of vaccination as a preventive of small-pox, certain
classes in India, especially cow-herds, shepherds, charioteers and the like had been in the habit of collecting and preserving the seeds of the pustules when dry. A little of this they used to place on the fore arm and puncture it with a needle. This process served the purpose of inoculation and the classes in consequence were generally exempt from small-pox. Dr Huillat, late of Pondicherry, assures us that "Vaccination was known to a physician, Dhanvantari, who flourished before Hippocrates." The ancient Hindoos used to practise dissection of human body and taught it to their disciples. They knew human anatomy and something of physiology. Dr Wise says that the Hindu Philosophers undoubtedly deserve the credit of having, though opposed by strong prejudice, entertained sound and philosophical views respecting the uses of the dead to the living, and were the first scientific and successful cultivators of the most important and essential of all the departments of medical knowledge — practical anatomy. It may as well be added that they were perfectly acquainted with the anatomy of goat, sheep, horse and other animals used in their sacrifices. The early warfare was conducted with such weapons as bow and arrow, sword, mace &c. Thus on every occasion the services of bold and
skilful surgeons were always in requisition for extracting arrows, amputating limbs, arresting hemorrhage and dressing wounds. Sushruta gives very minute directions to be observed in the performance of surgical operations and describes the method of opening abscesses, treating inflammations, boils, tumours, ulcers, fistulae and applying blisters, cauteries &c. The constant wars and internecine strife afforded ample opportunities to the surgeons to distinguish themselves in their profession and acquire considerable dexterity in their work. A glance at the Vedic or the Epic period will bear testimony to this fact. The surgeons of yore are reported to have performed incredible feats in surgical operations. But modern surgery has been able to do many things which ordinary folks will hardly believe to be possible. In its onward progress it may yet be able to succeed in doing what the ancients claim to have done. Sushruta classifies Surgical operations into :- Aharya, extracting solid bodies, Bhadya, incising, Chhadya, amputating, Ashya, probing, Lakhyya, sacrificing, Siyva, suturing, Vrdhyla, puncturing and V.navigationBar, evacuating fluids.

The surgeon before commencing an operation is enjoined to equip himself with all the requisites
such as the instruments, salts, bandages, honey, oil, water &c. He should have practical experience of his art and should have seen many surgical operations performed by others. He should be intelligent, steady, skilful and should execute his work with light hand. He should have by his side steady and strong attendants to assist him. The patient should be allowed to take light food before any operation is performed upon him. Abdominal operations however, and operations in the mouth or about the anus should be performed when the patient is fasting. The operation should be performed with the utmost care and after it is over a salve or poultice should be applied to the wound and a bandage be tied round it. Then a certain infusion should be burnt in the sick room to drive away flies and mosquitoes. This again foreshadows the theory of diseases conveyed by germs. The physician should not leave his patient without offering a prayer to the Almighty for his speedy recovery. Great attention should be paid to the patient's diet and the wound dressed at regular intervals until it is all healed up. Should the wound cause intense pain a cloth soaked in tepid beer (clarified butter) mixed with licorice might be applied to it.

It has been stated before that the Indian
surgery has recognised one hundred and twenty-five implements. These are grouped under two heads — Yantras (appliances) and Shastras (instruments).

The Yantras are one hundred and four and are of six kinds viz: — Svashikas, — pincers or forceps — (twenty-four kinds); Sandashas, — tongs — (two kinds); Talas — similar — (two kinds); Nails. — tubular instruments like catheters — (twenty varieties); Shalakas, — houges — (thirty sorts); Upayantras, — dressings — as cloth, twine etc. — are twenty-six in number. These make a total of one hundred and four. The last but not the least in importance is the Hand, which is rightly considered to be the best and most indispensable implement in surgical operations. For specimens of some of the implements used in Indian surgery see Plates V — VI.

The Shastras (instruments) are twenty in number and are shown on Plates VII — VIII. They are: —

The dimensions of these instruments are given in detail by old writers who at the same time recommend that new implements and instruments might be introduced in accordance with the exigencies of the time and with the advice of experienced and competent surgeons. It is also enjoined that the instruments should be made of the best steel, "of the manufacture of which India has been celebrated from the remotest times: they should be well-shaped with sharp and flawless edge and should be kept in handsome portable wooden boxes with a separate compartment for each instrument. The surgical operations are performed on what are considered auspicious days. The patient is made to sit or stand with his face to the east, the surgeon before him with his face to the west. The surgeon should be cautious that no vital part, artery, vein, joint or bone is carelessly injured in the course of the operation and the instrument should not go deeper than the requirements of the case actually demand, in serious surgical operations and in diseases of a painful nature the patient is made insensible by the administration of anaesthetics. In cases of children or of patients having a dread of the knife
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or where the proper instruments are difficult to procure bamboo, crystal, glass, Survidna (a kind of stone), leeches, fire, caustics, nail, Karica (capparis spinosa), Shefali (vitex negundo), hair, and finger may be made use of. They are called Anushas-tras or substitutes. Sharp pieces of bamboo bark or pointed crystal, glass or Survidna may be employed as incisive instruments. Nails may be used in extracting a solid body, leeches in extracting blood, and hair, finger or a vegetable sprout for probing. Caustics are used in opening abscesses and fire (live charcoal) is applied to snake-bites and is used in cases where wounds are intensely painful. Thus there are three modes, adopted by the Hindoos for treating bodily injuries — by caustics, by actual cautery, and by surgical instruments. In the opinion of Sushruta caustic is better than knife and cautery better than either.

In former times a practical knowledge of surgery was imparted to the students by performing operations on a variety of substances. Incision, for instance was practiced on Pushaafala (a succumbite maxima), Alaha (lagenaria vulgaris), Kalinda (citrus vulgaris), Trapu (cucumis pubescens) and other fruits; evacuating was practiced on a full Drita (a leather bag for holding water) and on the
urinary organs of dead animals; exsanguination was tried on the flesh hides of animals on which the hair was allowed to remain; operations for resection were practised on the vessels of dead animals and on the stalks of the water-lily; the art of probing and stuffing was practised on bamboo, reed, riddles of wood and on dry alabu. Operations of extracting foreign bodies were tried on Panax (agaricus ostrealis), Silva (segle marmelo), Bimbi (cephalandra indica) and on the teeth of dead animals. "Removal of bad humours" was practised on wax spread out on a board of shalmai wood (bomax malabaricum) and sutures on thin pieces of cloth or skin or hide. Ligaturing and bandaging were practised on dummies; applications of caustics and the actual cautery on pieces of flesh and catheterisation on an earthen vessel filled with water.

The art of surgery gradually declined in India owing to a variety of causes, the chief among them being the aversion of the Brahman, who had the monopoly of teaching the various sciences, for animal food, and for sacrificial offerings: too common in the pre-Buddhist period. This aversion made them shrink from touching carcases necessary for anatomical demonstrations; they also shrank from
coming in contact with blood, pus and other matter which cannot be avoided in performing surgical operations. Surgery being neglected by the priestly caste, passed into the hands of lower classes whose practice was all empirical. Even these people for want of encouragement allowed it to decline until as Mr Elphinstone rightly remarks, bleeding was left to the barber, bone-setting to the bariaian and application of blister to every man. All traces of the noble science as taught in olden times will be extinct from the land unless measures are taken for its revival.

Hindoo Medicine was at the acme of its glory in the time of the Ramayana and the Mahabharata. To the court of every chief, great or small, was attached a physician who was treated with great respect. There were army surgeons and court physicians. The work of the former was similar to that performed by the army surgeon of the present day. The court physician used to call on the King every morning and was the custodian of his health. Sushena was the name of the principal army surgeon of Rama in his war with Ravana, King of Lanka, and Valmiki makes mention of a particular Vaidyaa who was Rama's personal physician. A similar practice is noticed in the time of the Great War between the
Pandavas and the Kauravas. The army surgeons were fully equipped with the necessary medical and surgical appliances (Shishna-parva, Ch. 120). Durjoy-das, the Chief of the Fours, when pierced with arrows, was made by his physicians to sit in a tub filled with ambrolated water, under which he was freed from the missiles lodged in his flesh (Mahab. Ch. 83). Both the conflicting armies had distinguished surgeons on their staff. Veterinary science seems to have been highly cultivated long before that period. Nala, a remote ancestor of the Pandavas, is described as one of the most accomplished trainers and as possessing a thorough knowledge of all matters relating to the horse. Nakula, one of the five Pandavas, was an expert in the Veterinary science of which he has written several works, his "Achyar-shikilas" being still extant. The science of treating elephants, bullocks and other domestic animals was, and is still, known in India. Some are of opinion that Vagbhata, the celebrated author of "Ashtanghushraya" flourished in the time of the Mahabharata and that he was the family physician of the Pandavas.

In the time of Buddha (B.C. 543) Indian medicine received the greatest support and stimulus and surgery was allowed to languish. For Buddha and his
The science continued to flourish down to the first advent of the Greeks in India (3.1. 327). Arriva the Greek historian in describing the condition of India at the time of the invasion of Alexander the Great, refers to a curious fact which reflects no small credit on the Hindu physicians of the day. Alexander had in his train several proficient Greek physicians, but these, in cases of snake-bite, very common in the Punjaub, had to confess their inability to find a remedy. Alexander was therefore obliged to consult the Indian Vaidyas who successfully treated these cases. The Macedonian King was so struck with their skill, that according to Nearchus he employed some good Vaidyas in his camp and desired his followers to consult these Indian physicians in cases of snake-bite and other dangerous ailments. In face of the fact that the European toxicologists are still in search of a specific antidote for snake-poison, the Indian
Physicians who lived some 2000 years ago might well be proud of their skill. It is very likely that on his homeward march Alexander or Chikander as he is called in Latin, took with him a few professors of Hindu Medicine. This supposition receives some support when one examines the early history of Greek Medicine. There is a great similarity between the origins of the Greek and Indian medicine. Both the systems claim to be divinely inspired. The divine physicians Asvins, the twin sons of the Sun, bear a close analogy to the divine twins Apollo and Artemis who cured and alleviated the sufferings of mortals, and who derived their birth from Zeus or the "God of Light." Hippocrates the most celebrated physician of ancient Europe (B.C. 460) believed the art of medicine to be the production of the Divine Being, and it is curious to note that the Greeks, the Indians and all the ancient nations of the world have ascribed to all kinds of knowledge including that pertaining to the "Mysteries of life, disease and death," to a superhuman agency. In the opinion of some writers, Hippocrates acquired his knowledge of medicine in India. The teaching of Pythagoras (B.C. 480), the founder of the Healing Art among the Greeks, is essentially Indian. He is said to have acquired his medical knowledge from
the Egyptians who, as will be shown further on had borrowed their art from the Indians. Enfield in his "History of Philosophy" however, says that Pythagoras learnt his doctrine from Oriental philosophers, naming the Hindus. His philosophy bears such a striking resemblance to that of Buddha that Mr. Poucok in his "India in Greece" identifies him with "Buddhagoras" or Budha. If he could borrow his doctrine from India he could easily have borrowed the science of Medicine from the same source. Plato and Hippocrates both believed in humoral pathology and taught their pupils that the diseases in the body were caused by four humours, — blood, bile, phlegm and water. The fact however that the three humours of the body having been referred to in the Rig Veda (1.34.6) establishes the priority of the Indian system beyond all doubt. As for the Grecian physician Galen who rendered himself famous at Rome in the second century of the Christian era, it has been said before that he has adopted some of the fundamental principles of the Hindoo Medical science in his works.

From these similarities one can see at a glance that either the Aryans have copied their system of medicine from the Greeks or that the Greeks have copied theirs from the Indians. There is no inter-
ail or external evidence to support the first inference. For the Indians are a more ancient nation, their medical books being older than any, yet discovered on the surface of the earth. They are acknowledged on all hands to be thoroughly conservative and as such have a natural repugnance to borrow. Sir W. Hunter justly observes that Religion and Philosophy have been the great contributions of India to the world. As regards Philosophy in general Mr Coleridge in his Transactions of the Royal Asiatic Society Vol. I. has reason to assert that "the Indians were teachers and not learners." All the important sciences have taken their birth in India. It does not stand to reason, therefore, to suppose that the science of medicine could have been borrowed from the Greeks who themselves have lost all vestiges of that science, though the same is being practised at the present day all over India in its original form. Professor Weber, who is never known to be partial to the Indians asserts in his "History of Indian Literature" that "there is no ground whatever to suppose that Sushruta borrowed his system of medicine from the Greeks; on the contrary there is much to tell against such an idea." The Indian books on medicine do not contain any technical terms which point to a foreign origin.
Dr. Hirschberg of Berlin in a learned paper adds with regard to certain kinds of operations that "the Indians knew and practised ingenious operations which always remained unknown to the Greeks and which even we Europeans only learnt from them with surprise in the beginning of this century."

Professor Diss of the Königsberg University clearly detects the principles of Indian medicine in the Greek system. Even those who talk eloquently of the antiquity of Greece withhold from her the credit of originality in regard to her medical science and opine that the Greeks were indebted to Egypt for their knowledge of medicine. It is wholly immaterial whether the Greeks borrowed their medical science from Egypt or from India so long as the originality of the Indian system is undisputed.

By the by the Aryans believe Egypt (Misr) to have been colonized by the Indians. Proofs are given in support of the belief which it is beside our purpose to dilate upon here. Suffice it to say that the Tantrik deity Nila-Chikhandi (black-crested), an incarnation of Rudra, is recorded to have first taught the Nila-tantra (a mystical religious doctrine known to the Indians) in Egypt, the river Nile probably deriving its name from him. It is also stated that in the reign of Vishvanittra a
certain King named Masu-Vins, being excommunicated by Brahman, emigrated with his companions, pass-
ing through Arya (Iran or Persia), Garia (Arabia) and Misra (Egypt). According to Mahabharata the
four sons of Yayati who were cursed by their father
migrated to the west and became ancestors of some
of the Mlechhas tribes and the name Misra (mixed)
probably owes its origin to this circumstance.
Sir William Jones in the Reports of the Royal
Asiatic Society is led to believe that Egypt must
have been in remote ages colonized by the Indian
Arayas and writers like Major Wilford consider the
Mlechhas-athar of the Purans to be no other than Misr
the ancient name of Egypt. There is on the other
hand no record of the Egyptians having ever mi-
grated into India. Such circumstantial evidence has
led some European writers — Louis Jacolliot among
others — to affirm that if Egypt gave civilization
to Greece and the latter bequeathed it to Rome,
Egypt herself received her laws, arts and sciences
from India. There is nothing in the Egyptian medi-
cine which is not in the Indian system, and there
is much in the elaborate Indian system which is not
to be found in the medical science of Egypt. This
fact liberates India from the charge of strutting
in borrowed plumes.
It has been shown already that the Arab merchants took many medicinal drugs from India in the early part of the Christian era. It requires no great effort to prove that India has contributed greatly to the Arabic system of medicine. The Arabian physician Serapion (Ibn Serab) in his well-known treatise upon medicine often quotes Charaka, who is named "Sharaka Indianus" in the Latin translation. Avicenna, better known by the name of Allah- toon in India — the name has become synonymous with a "learned man" among the Hindus — was the most celebrated physician of Bokhara. He flourished in the ninth century. While describing the Indian preparation of Trifala (the three Myrobolans) he quotes in his work the opinion of Charaka and other writers with great respect. Another Arabian physician Rhazes (Al Razi), who is said to have lived long before the two preceding physicians, in treating of the properties of dry ginger and other drugs transcribes passages from the work of an Indian writer whom he calls "Sindhi-Chara". This Sindhi-Chara appears to be no other than the celebrated Vaghara of Sindh, who was in his time known as a second Charaka or Chara — the syllable "ka" making no difference, as in words like "bala" and "balaka" both meaning a child. The great works of Charaka
and Susruta were translated into Arabic under the patronage of Khalif Al-Yaman in the 7th century. The Arabic version of Susruta is known by the name of "Hakala Shamsheer-ul-Lind." These translations in their turn were rendered into Latin. The Latin versions formed the basis of European medicine down to the seventeenth century.

In the reign of King Vikrama (A.C.87) Indian medicine was in the hey-day of its glory. The ruler was a great patron of learning and his court was made brilliant by the nine learned men, known as the "nine gems", a physician named Dhanyantari being one of them. It may be mentioned in this place that there have been several persons bearing the name of Dhanyantari which is generally applied to an accomplished physician. The "gem" referred to in adoring Vikrama's Court was the author of a laborious work on Materia Medica called "Nighaat..."

But perhaps there was no period in the history of the Indian literature and science in which so liberal a patronage was given to learning in general and to poetry and medicine in particular as in the reign of King Bhoja of Dhar (A.C.877). It was a golden age of Hindoo literature. The King was a learned man himself and in the reputed author of
a treatise on Medicine and other works, Pandit Ballal in his "Bhoja-prabandha" or a collection of literary anecdotes relating to King Bhoja of Dhar, describes an interesting surgical operation performed on the King himself who was suffering from severe pain in the head. He tried all medicinal means but to no purpose and his condition became most critical when two brother physicians arrived in Dhar, who after carefully considering the case came to the conclusion that the patient would obtain no relief until surgically treated. They accordingly administered a drug called Sumomhiini to obtund his sensibility. When completely under the influence of the drug they trephined his skull, removed from the brain the real cause of complaint, closed the opening, sutured the wound and applied a healing balm. They are then related to have administered a restorative medicine called Sanjivini to the patient who thereby regained consciousness and experienced complete relief. This incident clearly shows that brain-surgery, which is one of the greatest achievements of modern science, was not unknown to the Indians who also used to practise abdominal surgery. This is not a solitary instance. Jivaka the personal physician of Budha is recorded to have practised cranial surgery with the greatest
success. Johannin served the purpose of chloroform but there is hardly a drug in the modern pharmacopoeia corresponding with Etilizin which no doubt minimized the chances of 'deaths under anaesthesia' which at present sometimes occur.

During the Mahomedan rule (A.D. 1001 to 1707) the Indian Medicine began to show signs of decay. The reason is obvious. No art or science can flourish without the moral and material support of the government of the day. The Mahomedan conquerors brought with them their own Hakeems or doctors. The whole country was in an unsettled condition not suitable for carrying on scientific investigations. The Hakeems were an intelligent set of people. They unreservedly made use of some of the best and most effective Indian drugs and incorporated them in their works. Among the important works written by the Hakeems may be mentioned "Al-Falat Ablivsh" by Narroodeen Mohamed Abdulla Shirazee, personal physiciain of the Emperor Shah Jahan (A.D. 1660). This work gives the names and properties of the drugs sold in the Indian Bazar; "Vulan na shifa i Sikandar" by Bava bin Khas Khan (A.D. 1518) and "Tuhfat-<br>
al-Waminin" by Mohamed Xonin are compilations of the various Arabic and Sanscrit authorities on the science of Medicine. Mohamed Akbar Arzai, Court
physician of Aurangzebe (A.C.1658), in his "Marhab-
din Kadari" transcribes bodily many useful pre-
scriptions from Sanskrit medical treatises. This
shows that though in its decline, the Hindoo Medi-
cine was able to command respect from its Mahomedan
rival.

The Indian medical science showed signs of re-
vival during the time the Peshwas were in power
(A.C. 1718 -- 1818). The Peshwas some of high Brah-
man lineage and did all in their power to encourage
indigenous learning and scholarship. All the learn-
ed men of the country were attracted to their Court
and liberally treated. Some of the recent works on
Medicine, mostly compendiums of larger works on the
subject, were written during this period.

The power of the Peshwas was overthrown by the
English and with the fall of the Marathas dates the
fall of the native medical art which lost all its
material support. The English came with a pre-con-
ceived notion that the Indian Medicine was quackery
and the Hindoo works on the subject a repository of
sheer nonsense. They established medical schools
and colleges — an inestimable boon no doubt —
but looked upon the healing art of the land with
supreme contempt. The Indians on the other hand,
with a natural dislike for everything foreign, sup-
posed amputation and dressing of wounds to be the Alpha and Omega of the Western Medical science. Much of the misconception on both sides will disappear if the Hindoos are to remember that the English are one of the most progressive nations in the world and the Englishmen bear in mind the words of Sir Moiler Williams who says, "We are, in our Eastern empire, not brought into contact with savage tribes who melt away before the superior force and intelligence of Europeans. Rather are we placed in the midst of great and ancient peoples who attained a high degree of civilisation, when our forefathers were barbarians, and had a polished language, a cultivated literature and abstruse system of philosophy, centuries before English existed, even in name." If the question be approached with an open mind, without bias or prejudice it will no doubt be found that the West, far more advanced though it be, may yet have something new to learn from the East. Those who have the advantage of being acquainted with both the systems are of opinion that divested of all the exaggerations in which the Indians are habitual to indulge and of their tendency to apotheosize all their sciences and self-great men, the Hindoo system of medicine can on the whole com-
175 parts favourably with the Western. There are many things in which both agree and if in certain points they seem to differ, it is often only to agree in the end. For instance, the mind-diseases of the Hindoos are mostly treated by the Western writers as diseases of the Nervous system; the bile diseases generally correspond with the diseases of the Circulatory system and the disorders of the phlegm are analogous to the diseases of the Alimentary system. The demoniacal diseases of the Hindoos are but other words for hysteria, epilepsy, dancing mania and disorders of the intellect. It is also asserted by those who have had opportunities of learning and practising both the Eastern and the Western systems of medicine that the Indian medical science has reached its standard of excellence in Materia Medica, therapeutics and hygiene, while the Western science is more accurate and far superior in anatomy, physiology and chemistry, while its superiority in surgery is undoubted. The Indian science may well be proud of its symptomatology, diagnosis and prognosis and the Western science of its pathology and etiology. The popular belief is that in acute diseases English medicines are more effective than Indian ones but that in chronic diseases the latter are more efficacious. In toxicol-
ogy the process of detecting poison by chemical analysis is unknown to the Indians but is resorted to by European physicians with great accuracy. In the preparation and administration of mineral drugs the Hindoos claim to have a longer experience. There is a striking resemblance between the two systems as regards the treatment of several diseases such as diarrhoea, piles, asthma, consumption, paralysis &c. It is but a truism to say that in some respects the Indian mode of treating certain diseases peculiar to tropical climates is more suitable and rational than any other. A close study of the science will convince any impartial reader that it contains germs of some of the modern discoveries in the healing art. A few of them such as circulation of the blood, postural treatment, massage and anaesthetics have been referred to. A reference is also made to the use of the magnet in therapeutics. Cures by animal magnetism were common in India long before they were recognised by Mesmer in Germany (1778 A.D.) and John Elliotson in England (1830). In the medical works of the Hindoos, doctors curing diseases by hypnotism are styled Āliha (endowed with supernatural power), those curing by means of mineral drugs Dāvi (divine), those curing by vegetable preparations Manushi.
(human), and those by surgical operations Rakshas (demoniacal). The names indicate the degree of estimation in which such class was held. And when Manu in his Ordinances advises us to "avoid the food of the doctor" (that is to avoid eating with, or any food touched by, a doctor) he evidently refers to the surgeons and not to the other classes of physicians. The degenerate state to which Indian surgery is now reduced is chiefly owing to this popular prejudice. The Indian writers have described the medicinal properties of waters of the principal rivers, lakes, wells and mineral springs of the country, and their power to cure various diseases. This clearly shows that hydrotherapy was known in India long before it was dreamt of in Europe. It will thus appear that the Indian Medicine does not deserve to be depreciated off-hand. It has its faults and its imperfections, may be many, but it has also its good parts, few though they be. The aim and object of the two systems are the same, In the words of Charaka "that is the true medicine and that the true physician that can cure and eradicate disease. Let the western and the eastern schools of medicine then join hands and reconcile themselves to each other wherever possible. Let them meet as friends and not
as foes or rivals. Under present circumstances the East has much to learn from the West, but the West too may have something new to acquire from the East if it so chooses. If the medical science of India, in its palmy days has directly or indirectly assisted the early growth of the medical science of Europe, it is but fair that the latter should requite the gratitude by rendering all possible help to the former, especially when old as it is, it is almost dying for want of nourishment. The Indian Medicine deserves preservation and encouragement. It is the business of all seekers after truth — be they Europeans or Natives — to take up the question in the spirit of fairness and sympathy. The revival of such a spirit will, it is hoped, lead at no distant date, to the just appreciation of the Aryan Medical Science.