

1158

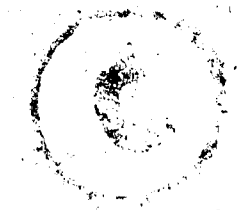
INDIAN JOURNAL
OF THE

HISTORY OF MEDICINE

VOL - VII

JUNE - 62

NO - 1



DIGITIZED

DL
L 25 M 2 NS 644
NS 2 7.1.
L 4 3 23

163

Indian Journal
OF THE
History of Medicine

Editor: D. V. SUBBA REDDY

Vol VII

JUNE 1962

No. 1



PUBLISHED TWICE A YEAR - JUNE AND DECEMBER.

FOR

The Indian Association of the History of Medicine

497, Poonamallee High Road, Madras-7 (India)

INDIAN JOURNAL OF THE HISTORY OF MEDICINE

(Vol. VII, No. 1, June 1962)

CONTENTS

	Page
Medicine in Medieval India ...	1
P. Kutumbiah	
Early Medical Education in Bombay ...	14
Rustom Jal Vakil	
A Medieval family of Six Generations of Medical men in Andhra ...	25
Hari. Adi Seshuvu	
Historical Sketch of Chest Diseases in Ayurveda ...	29
D. V. S. Reddy and B. Rama Rao	
A Short Account of Chest Diseases in Unani Medicine ...	36
M. Azeez Pasha	
Medical Adventures and Memoirs of Manucci ...	42
D. V. S. Reddy	

Indian Journal
OF THE
History of Medicine

Vol. VII

JUNE 1962

No. 1

Medicine in Mediaeval India

By

P. KUTUMBIAH, M.D., F.R.C.P.

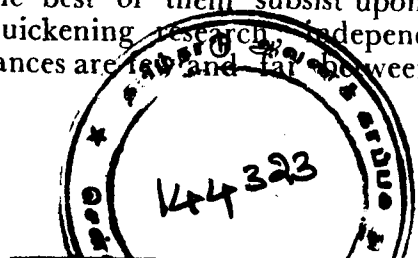
Christian Medical College, Vellore.

It is not easy to define precisely the chronological limits of the mediaeval, or as a matter of that, any other period of Indian history. The divisions of history into periods are artificial in proportion they are precise. To a comprehensive survey the Mediaeval Period in Indian history spreads over a thousand years, from 510 A.D. when the irruption of the Huns under Toroman into northern India took place, to 1526 when Babur defeated Ibrahim Lodi at Panipet and established the Moghul Empire in India. There is a consensus of opinion as to 1526 A.D. being the closing date of this period but none as to the opening date. The opening date will depend on our conception of what constitute the mediaeval conditions. If the disintegration of central power and fragmentation of the country into several powerful kingdoms, fighting each other for imperial supremacy, is taken as the criterion the year 647 A.D., the date of the death of King Harsha may be chosen as the starting date for on his death there arose the powerful kingdoms of Kanouj, Malwa, the Palas and the Senas, the Chalukyas, the Pandyas, the Cholas and the Cheras and fought each other for imperial supremacy. If the complete disappearance of all central authority and the conquest of the land by a foreign power is taken as the criterion, then the year 1192 A.D. will serve as the opening date, for, in this year, all vestige of central power vanished, when the last Hindu King, with any pretensions to imperial authority, Prithiviraj Chahaman, was defeated by Mohammad Ghori at Tarain and established the Sultanate of Delhi. The Mediaeval period in Indian history can be divided into two periods, viz, the early period, starting with whatever date we chose for the opening date and extending upto 1192 A.D. the date of the establishment of the Sultanate of Delhi and a later period starting from 1193 and extending upto 1526 A.D. the date of the foundation of the Moghul Empire in India.

The classical age of Indian medicine may be said to have started in the 6th century B.C. with the founding of the classical schools of Atreya and Dhanwantari. Much original and creative work was accomplished by the disciples of these founders and the work was embodied in various Tantras and Kalpas. Tantras were treatises dealing with separate branches of medicine and Kalpas were monographs on special subjects. Subsequently, the contents of these Tantras and Kalpas were, in a compressed and selective form, compiled in samhitas or compendia like those of Charaka, Bhela, Susruta and the Bower Ms. Original works on medicine would seem to have practically ceased to be produced from the time of these samhitas. A new start appears to have been made with the commencement of the 13th century when a new type of medical literature, a new school of medicine and new trends in medical diagnosis and therapeutics make their appearance. The Mediaeval Period in Indian medical history may be divided into an earlier and a later period taking this date as the dividing line. The Earlier period may be taken to start with Vagbhata I in the 7th century and end with the beginning of the 13th century and the later Period starting from this date and extending upto 1560 the date of Bhava Misra, corresponding to the main divisions of the mediaeval period of Indian history.

The Earlier Period. (600-1200. A.D.). The classical age of Indian medicine reached its zenith in the middle of 5th century, A.D. the probable date of the composition of the Bower Ms and then seems to have declined badly. In the time of the Buddhist pilgrim, Itsing (679-685), medical treatises seem to have been few and scarce. He says "that the 'eight parts' (astanga) formerly existed in eight books but lately a man epitomised them and made them into one bundle (or book) and that all physicians in the five parts of India practice according to that book." This obviously refers to the Astanga Samgraha of Vagbhata I, whose date is about 625. A.D. This event may be taken as the start of the early period, i.e. 7th century A.D.

The writers belonging to this period were Vagbhata I, Madhava and Vrinda, Dridhabala, Vagbhata II, Chakrapanidatta, and Vangasena. The medical literature of this period is entirely receptive and passive, consisting of compendiums (samgrahas and Samhitas), commentaries, glosses and glossaries (nighantus). We have the Astanga Samgraha of Vagbhata I, the Astangahridaya Samhita of Vagbhata II, the Ayurveda-Dipika and the Bhanumati, the commentaries of Chakrapanidatta on Charaka and Susruta Samhitas, the Nibandhasangraha of Dalhana on Susruta Samhita and the various Nighantus like Rajanighantu, etc. They seldom bear witness to any progress; the best of them subsist upon ancient tradition, showing no aspiration to quickening research, independent observations, new ideas or practical advances are few and far between and industrious



compilation is reckoned an achievement of the highest merit. It also bears witness to the stagnation, if not decay, of the ancient classical medicine. This is very evident in the Astanga Samgraha. Classical medicine does not seem to have made any progress from the time of the samhitas; on the other hand, there is evidence of deterioration in the knowledge and practice of anatomy and surgery. Practical anatomy seems to have fallen into disuse in Vagbhata I's time and in the compendium of Vagbhata II (9th century A.D.) the information about the skeleton is limited to the bare statement that the total number of bones is 360. Again the surgical treatment of certain eye diseases, such as cataract, which occupies a considerable space in the Uttara Tantra of Susruta, the younger, is much less prominent in Astanga Samgraha of Vagbhata I, while in the subsequent writings of Madhava, Dridhabala and Vagbhata II, it is altogether ignored.

Vagbhata I, alone of the writers of this period, shows any evidence of originality in his views on medicine. With regard to the tri-dosa theory, he differs from the views of Charaka and Susruta on this theory and expresses his own views. He distinguishes the dhatus, the seven constituents of the body, from vayu, Pitta and Kapha, by calling the latter *dosas* (polluting agents) and the former *dushyas* (the constituents which are vitiated). He further definitely denies that malas of dhatus could be the cause of disease. He thus tries to explain away the view of Charaka as being a metaphorical statement. He further says that disease is not *dhatu-vaisamya* but *dosa-vaisamya*. In another passage he says that as the manifold universe is nothing but a modification of gunas, so all diseases are but modifications of the three *dosas*. In another place he uses the simile of the three *gunas* with reference to the three *dosas*. In the treatment of, osteology, as Hoernle points out, Vagbhata I always attempted to bring about a reconciliation between the views of Charaka and Susruta.² So also in matters concerning medical theory he tries to explain away the unadjustable views of one or the other. Thus he plays the role of a conciliator between Charaka and Susruta, the recognised classical authorities.

There is much controversy with regard to the identity of the writers, Madhava and Vrinda. Madhava is the reputed author of Rugvinichaya or Nidana. This treatise deals only with the pathology of diseases. It is no original composition but is a more a compendium of the knowledge about diseases and their diagnosis gleaned from the works of Charaka and Susruta. His system of enumeration and description of disease mark an advance on Charaka and Susruta. Thus he devotes a special chapter for small-pox (masurika) whereas Susruta mentions this disease in minor diseases. There is a lot of controversy with regard to the identity of Vrinda. Some authorities consider him a different person from Madhava and later than Madhava. But Hoernle argues with great probability that

32
144 323

Madhava and Vrinda are one and the same person. He thinks that Vrinda first wrote the Nidana and then wrote his Siddhayoga, also called Vrinda-madhava, on therapeutics, as a supplement to it³. Das Gupta agrees with Hoernle and thinks that Vrinda and Madhava may be one and the same person⁴. His Siddhayoga is in the nature of a samgraha and follows the method of Vagbhata and others and gives a survey of the classical methods of treatment Brimhana, Swedana, Vamana, Virecana, Elixirs and aphrodisiacs, on the lines of Charaka and Susruta. Vrinda is the first author to prescribe mercury for internal use. A preparation known as *parpati-tamaram* is described. Sulphur, copper, and the pyrites are to be pounded together with mercury and subjected to roasting in a closed crucible and the product thus obtained to be administered with honey. Sulphide of mercury constitutes the main ingredient of another preparation, called *rasamirta churanam*. For this, one part of sulphur and half its weight of mercury are to be rubbed together. This is to be administered with honey and clarified butter. He mentions mercury as a constituent of a medicine, to be used externally, for killing lice. He describes copper compounds in the preparation of a collyrium. The Nidana of Madhava and the Siddhayoga of Vrinda were considered to be very important treatises and they were among the books translated into Arabic during the 9th century.

Chakrapanidatta (1060 A. D.) and Vangesena (11th Century?) are writers of importance on account of their contributions to Indian pharmacology. Chakrapanidatta besides being the celebrated commentator of Charaka and Susruta samhitas, is also the writer of Chikitsa Samgraha, Chakradatta and Dravyagunasamgraha, works dealing with medicines and their use. Vangesena is the author of Chikistasarasamgraha, a comprehensive treatise on medicine, dealing with description of diseases, therapeutics, dietetics and pharmacology. The importance of these two authors lie in their contributions to Indian pharmacology. The Indian pharmacopoeia of the 7th and the 8th centuries ran on the lines of that of Charaka and Susruta and consisted mainly of vegetable drugs and preparations. Metals were very sparingly used for medicinal purposes. The metals used were gold, iron, silver, tin and lead. Charaka in his instructions for the preparation of *Lauhadi Rasayana* describes in detail a method of curing iron and make it fit for the purpose of his rasayana. He mentions that the same treatment is to be adopted for the curing of gold and silver⁵. Susruta in his classification of the medicines into *ganas* or groups mentions a Trapu or tin group which consists of tin, lead, copper, silver and iron⁶. It is doubtful whether Charaka ever prescribed mercury for medicinal purposes. Susruta mentions mercury twice but only for use in unguents for external use. We have seen that Vrinda mentions mercurial preparations both for external and internal use. Thus it would appear the use of metals for medicinal purposes was progressively on the increase. The works of

Chakrapanidatta and Vangesena mark a distinct advance in this direction. Chakrapanidatta in his treatises describes a process of 'killing' iron. He mentions *Mandura* or the rust of iron and prescribes it in combination with other drugs. He describes a method of preparing *Kajjali* (black sulphide of mercury) and *Tamarayoga* (sulphide of copper). He also mentions *Roupyamal* or calx of silver in connection with a preparation called *Yogaraja*. Vangesena deals exhaustively with the three kinds of iron and six kinds of steel, purification of steel, the killing of iron by melting, powdering etc. He also speaks of properly purified quicksilver, of *Rasaparpata*, the preparation of quicksilver and other metallic and mercurial mixtures but does not enter into the particulars of the methods of working on mercury.

The Later Mediaeval Period. (1200–1560 A. D.). This period marks a definite break with the earlier period and exhibits many new features. This period saw the rise of the prolific literature about *Rasa* (mercury) and of a new school of physicians called the *Rasasiddhas*; opium enters into the Indian pharmacopoeia; and *nadipariksha*, the examination of the pulse, makes its appearance as a method of diagnosis of diseases in the practice of medicine.

The most striking feature of this period is the rise of *rasa* literature. This rise can be traced to the growing ascendancy of the Tantric cult in the religious field in this period. "From about 600 A. D. Buddhism in India began to decay. Not only are Hindu deities such as Vishnu and Siva, Sarasvati and Mahadevi introduced, but magic spells, which at first containing Buddhist doctrine finally degenerated into pure gibberish. The last stage in the degradation of Indian Buddhism is to be found in the Buddhist Tantras, treatises composed in barbarous Sanskrit. Most of them are connected with Yoga, which aims at the highest knowledge of 'nothingness'. The teaching and practice of this Yoga are a mixture of mysticism, sorcery and erotics, accompanied by disgusting orgies. These Tantras have no longer any connection with Buddhism beyond being described as 'promulgated by Buddha'. They do not differ from the Saivite Tantras, for they inculcate the worship of the linga and the Saivite gods, besides introducing many female deities into their cult".⁷ To understand the bearing of these cults on the *Rasa* literature it is necessary to give a brief sketch of their development.

The fundamental doctrine of the Upanishads is the identity of the personal soul, *i.e.* *Atman* with the universal soul, *i.e.* *Brahman*. The personal soul indwells in the human heart. This separated condition of the soul is the cause of mental, as well as, moral evil. Ignorant of its true nature, the soul attaches itself to objects unworthy of it. Every act which it performs to gratify this attachment entangles it deeper in the perishable world; and as

it is imperishable it is condemned to a perpetual series of changes. Once it is dragged into the *Samsara*, into the vortex of life, it passes from one existence into another without respite and without rest. This is the two-fold doctrine of the *karman*, i.e., the acts by which the soul determines its own destiny and of the *punarbhava*, i.e., the successive rebirths in which it undergoes it. As the state of separation and ignorance is for the soul a fallen state, so the cessation of that state, the return to unity, is salvation. As soon as the soul (*atman*) had acquired the perfect immediate certainty that it is not different from the *Brahman*, it no longer experiences doubts or desires. It attaches itself no longer to anything; it no longer sins; 'the bond of the *karman* is broken; unity is virtually restored. This is Yoga, the state of union. At first it was thought enough to possess the perfect notion, the thorough and permanent certainty of identity but soon more was required. It was maintained that the soul must have an immediate perception of it and feel itself in union with the Absolute. For long special powers of vision were ascribed to dreams and ecstatic phenomena. They were believed to afford means of communication with the invisible world and the deity; they were conceived to be the true philosophical method, the way to Yoga and salvation. In the Upanishads a complete theory is given of the ecstatic state and the means of inducing it. They have been collected and expounded in the Yoga Sutra of Patanjali.⁸ But about the 4th century A. D., a new doctrine was propounded by the author of the book *Kitab Patanjali* which minimised the importance of Yoga as a means of salvation and advocated instead the way of *Rasayana*. This modified doctrine was taken up and easily assimilated by Tantrism and Saivism.⁹ "Saivism adopted the formula of the deistic *samkhya*, like Patanjali in his Yoga Sutra. Soul is clearly distinguished from matter on the one hand, and from God on the other. United with matter the soul is separated from God; it is a prey to error and sin and it falls under the law of death and expiation. It is a *Paśu*, an animal held by a chain, namely matter; which hinders it from returning to its *Pati* or master; it is to break this bond that all the efforts of the faithful must be directed. Saivism in a pure form was practiced by the Sittars of South India. They were zealous adepts in alchemy and practiced *Rasayana* as the method of salvation. The object contemplated in this method is the transmutation of the body into an incorruptable one by means of *Rasapana*, i.e., the absorption into it of elixirs compounded principally of mercury and mica, that is to say, of the very essential qualities of Siva and Gauri, with whom the subject of the operation is thus at length identified. This species of transubstantiation constitutes the *Jivanmukti* or state of deliverance commencing with this present life, the sole and indisputable condition of salvation.¹⁰

Rasesvara Darsana, the 'mercurial system', thus sets forth its tenets: "Other Maheshvaras there are who, while they hold the identity of self with God, insist upon the tenet that the liberation in this life taught in all

the systems, depends upon the stability of the body frame and therefore celebrate the virtues of mercury as a means of strengthening the system". "Mercury is called Parada, because it is a means of conveyance beyond the series of transmigratory states. It is styled Parada because it is employed for the highest end by the best of votaries." "For though the body as a complex of six sheaths or wrappers of the soul is dissoluble, yet the body, as created by Hara and Gauri under the names of mercury and mica, may be perdurable". "It is mercury alone that can make the body undecaying and imperishable".¹¹ The whole *Rasa* literature takes its stand on this emphatic assertion.

Acharya P. C. Ray, the eminent Indian chemist, to whose researches we owe all our present knowledge of the history of chemistry in ancient and mediaeval India, has raised the question whether the knowledge of chemistry such as we find in the tantras quoted by Madhavacharya in his *Rasesvara Darsana* is indigenous or exotic in origin? He argues that tantric mysticism with alchemy as an integral part, was cultivated in the Universities of Nalanda, Udandapura, and Vikramasila in Central India and Maghada and thence it spread to Bhot (Tibet) and to regions lying south east of it and South India after the invasion of the country by Mohammadans in 1200 A. D. and the destruction of monasteries of Udandapura and Vikramasila with the consequent dispersal of the monks who were the custodians of that knowledge.¹²

But Barth and other eminent orientalist discount this theory of the indigenous origin of the knowledge of chemistry and alchemy in the Tantras and argue that it was exotic in origin and was derived from intercourse with the Arabs. "In regard to alchemy anyhow" observes Barth "in which the Sittars are zealous adepts, they were disciples of the Arabians, although other Saivites had preceded them in the pursuit of the philosopher's stone. It is clear that the devotional formulae of the Vedanta are here only a sort of jargon, under which lies hid a radically impious doctrine; and it is not less clear that in this doctrine, which had from the 14th century produced a rather considerable literature, that there is an infusion of Mohammadan ideas".¹³

The question is not where the Tantras got their knowledge of chemistry from but where did they get their specialised knowledge of alchemy and mercury from? There is evidence to show that they most probably derived that knowledge from the Arabians during the reigns of the Abbassid Caliphs al-Mansur (754-775 A.D.), Harun-al-Rashid (786-814 A. D.), and al-Mamun 813-833 A. D.). It was in the reign of Harun-al-Rashid that the Indian physician Manka was invited to Bagdad to treat the Caliph whom he cured of some disease which defied the skill of the Arabian physicians. He stayed in Bagdad to practice and was attached to the Hospital

of the Barmicides. Another Indian physician Ibn Dhan was appointed a director of hospital at Bagdad. A third Indian physician to practice at Bagdad during this time was Salih and was held in high esteem for his professional skill.¹⁴ Abu Musa Jabir ibn Hayyan (722-803 or 813 A. D.) known to the Western world as 'Geber' was an important personage at the court of Haruh-al-Rashid. Jabir is world famous as the father of Arabian alchemy. He was the greatest chemist of Islam and perhaps the first of the world's great chemists. His works show us he also practiced medicine. He was practicing alchemy and laying the foundations of chemistry as a science, when the Indian physicians were *persona grata* at the court of the Caliph. Jabir's influence can be traced throughout the whole historic course of European alchemy. It is inconceivable that the Indian physicians were not influenced by his work and did not imbibe his teachings on alchemy and chemistry.

Alchemy is not mere knowledge of metals; neither is it a knowledge of metallurgy. It is a science or pseudo-science based on a definite theory of the formation of metals. Aristotle was the first to formulate that the metals were formed in the bowels of the earth from the condensation of 'smoky and vaporous' exhalations. Jabir formulated that the condensation of these exhalations first give rise to the formation of sulphur and mercury and out of the combination of these two substances in varying proportions the metals are formed. Having common constituents, metals may be transmuted one into another. European alchemy took its start from Jabir's work. As far as could be made out, in the Tantric literature no distinctive formulation of any theory of alchemy is to be found. The extraordinary efflorescence of Indian alchemy during the 9th to the 14th century may legitimately be inferred as being due to a cross-pollination of Indian alchemy by Jabir's teaching transmitted by the Indian physicians at Bagdad.

Discussion of the various processes of chemistry forms a characteristic feature of Jabir's writing. The common laboratory methods of distillation, sublimation, calcination, solution, crystallisation, and reduction are described and their general purpose explained. He was very much interested in the chemistry of mercury. He prepared pure mercurial oxide and sublimate. He described the preparation of cinnabar (mercuric sulphide). He prepared crude sulphuric and nitric acids as well as a mixture of them aqua regia and was conversant with the fact that gold and silver dissolve in them. Beside a knowledge of the chemistry of mercury, the Arabians were conversant with the pharmacology of mercury also. al-Rhazi (865-925 A.D.), the great physician and a director of the Bagdad Hospital, was conducting experiments with mercury and its effects on the human body on himself. He also experimented on its effects on apes. He was the first to use mercury as a perigative. All this knowledge about chemistry and mercury must have been transmitted to India by the Indian physicians at Bagdad.

Besides, it was during the reign of the Abbassid Caliphs that the following Indian medical works were rendered into Arabic: Charaka Samhita, Susrud (Susruta samhita), Nidan (of Madhava), Sindhstaq or Sindhsan (Siddhayoga and a few other works of less known authors. Thus there was an eagerness on both sides to learn and to share their knowledge.^{14(a)}

Rasa is a familiar word in ancient medical literature. The word was used to denote the juice of plants, the different tastes the food-juice (ahara-rasa) out of which the dhatus are formed. So also the word *rasayana* is a familiar one. Charaka defines *Rasayana* as medicines which have the capacity to impart superior *rasa* and *dhatus*. They are elixirs of life for preserving and increasing the vigour, restoring youth, improving memory and preventing disease. *Rasayana* formed one of the eight divisions of the Ayurveda. The word is used in all classical literature down to Bhavaprakasa in the above sense. There is no warrant to assume that the *Rasayana* mentioned in the Kitab Patanjali, which formed the basis of Tantric literature, denoted any thing other than what was denoted by *Rasayana* of the classical writers. That it had not attained the significance of exclusive treatment with mercurial compounds, is shown by the description of *rasayana* as it was practiced in the time of Albiruni (973-1048 A.D.). Albiruni was the translator of the Kitab Patanjali and should know therefore of its contents. He writes: "they have a science similar to alchemy which is quite peculiar to them. They call it *Rasayana*, a word composed with *rasa*, i.e., gold. It means the art which is restricted to certain operations, drugs, and compound medicines, most of which are taken from plants. Its principles restore the health of those who are ill beyond hope and give back youth to fading age, so that people become again what they were in the age of puberty.....And why not? Have we not mentioned on the authority of Patanjali that one of the methods leading to liberation is *Rasayana*?"¹⁵ No mention is made of mercury in connection with *Rasayana*. Charaka describes in detail many *rasayanas* in his samhita, which have the same end in view but in not even in one of them, does he mention mercury. So it is evident that *rasayana* acquired its present signification after the 10th century.

The classical name for mercury is *parada Rasa* with the signification of mercury does not occur in medical literature till the 9th century. In Siddhayoga, a work of the 9th century, the word *rasendra* is used to mean mercury. *Rasendra* means 'the king of metals', a word which has an alchemic ring about it. Even in Bhavaprakasa, a work belonging to 16th century, the word is used in a two fold sense, to mean *rasa* and mercury, showing its use was just beginning. *Rasayana* meaning treatment with mercury and other metallic compounds exclusively does not occur in classical medical literature at all. It is evident, therefore, that this new

signification of the word *rasa* and *rasayana* was acquired only about the 9th century, the period during which the relations between India and Bagdad were closest. This inference is further strengthened, when we know for a certainty that opium was borrowed about the 14th century from the Arabs, and also the knowledge of the mineral acids which make appearance for the first time in Tantric literature. Thus we find in *Rasapradipa*, a standard Tantric work of the 16th century a detailed description of the process of preparing mineral acids by distillation, a process well known to Jabir as the 9th century.

Nagarjuna, who flourished about the middle of the 9th century, is generally acknowledged to be the father of Indian alchemy. The authorship of *Rasaratnakara*, the earliest work dealing with alchemy and chemical processes, is ascribed to him. In this book is described the process of purification of metals, killing of metals and gems, fixation of mercury, preparation of Kajjali (sulphide of mercury and a variety of yantras (apparatus) used in such processes. He claims that Prajnaparamita appeared before him in a dream and revealed to him the ingredients of a certain recipe. It may well be that Jabir, the father of alchemy and chemistry, appeared before him in an Arabian Night's dream and revealed to him the secrets of alchemy and chemistry.

"The oldest work containing a detailed account of calcination or preparation of the different metals (such as gold, silver, iron, mercury, copper, tin and lead) for internal use, with formulae for their administration, is, I believe, a concise treatise on medicinal preparations by Sarangadara. Opium and pellitory root are mentioned in this work, hence it must have been compiled during the muslim period" writes U. C. Dutt.¹⁶ Sarangadara Samhita is also the first medical work which describes nadipariksha as a method of medical diagnosis in preference to the classical pancha-nidana (the five essentials of diagnosis). The date of Sarangadara is a matter of great controversy. According to Grierson, Sarangadara Samhita is to be placed about 1500 A. D. on internal grounds. Jolly, on the evidence of the existence of a commentary on it by Vopadeva who flourished about 1300 A. D., conjectures that it must have been written at the latest about the 13th century.¹⁷ Sarangadara is also the author of a non-medical work called Sarangadarapaddhati and in this he dates his work in Samvat 1420 or A. D. 1363.¹⁸ We have seen that it is very probable that the Tantras derived their knowledge of alchemy and mercury from the Arabians. It is acknowledged that the Indians derived their knowledge about opium from the Arabs. Its very name in sanskrit, Ahiphena, suggests its Arabic origin. It seems to have been introduced into India about the middle of the 14th century. It was first imported from Arabia and from the 16th century began to be cultivated in India. It is quite probable that *nadipariksha* was also derived from the Arabians. The

only two countries where a knowledge of pulse examination as a means of diagnosis was prevalent were China and the Saracen Empire. With both these countries India had intimate relations from the 8th century A. D. onwards. Amoghavagra, a sramana (Buddhist priest), is credited with the introduction of the Tantric cult into China. He lived in China from 746-771 A. D. We do not know whether he brought any Chinese medical ideas with him. The only other place from where they could have derived this knowledge is the Saracen Empire. The Arabs were very conversant with pulse-examination in their daily medical practice. They derived their pulse-lore from the Greeks. The Arabs were also conversant with the use of mercury and opium. Since we find in Sarangadara Samhita all these are mentioned together for the first time in Indian medicine, it is quite probable, that these three were derived from the same source, Bagdad, where Indian physicians were settled down for practice and were in daily touch with the Arabian physicians.

Sarangadara Samhita is important in Indian medical history for other reasons also. It initiates a new tradition in Indian medical literature. Charaka and Bhela followed the tradition of Astanga Ayurveda and their Samhitas are divided into eight sthanas. But the Vagbhata follow the precedent set by Susruta Samhita. Their works are divided into six sthanas, viz., Sutra, Nidana Sarira, Chikitsa, Kalpa and uttra sthanas. With Sarangadara Samhita we have a break with this tradition. It is not divided into sthanas but into three *khandas*, viz., Purva, Madhya and Uttra *Khandas* and each of the *khandas* is again divided into chapters.

It also marks certain important advances in the physiology of respiration, in medical diagnosis and therapeutics. It is a remarkable fact that neither Charaka nor Susruta nor the Vagbhata reveal any knowledge about the lungs and their role in respiration. Sarangadara makes two statements which are of the greatest importance with regard to the knowledge of respiration of Indian medical writers. In the first place he mentions the lungs by name, *puppusa*, and says that *Udana vayu*, one of the five *vayus* dwells, in the lungs.¹⁹ This is the first definite statement in Indian medicine connecting the lungs with the *vayus* and thus with respiration. The second observation is equally arresting. "The *Prana vayu* after coursing through the interior of the lotus like heart, goes out through the throat to drink of the outside air enters the body again to nourish the whole body and to keep up the digestive fire"²⁰. Though couched in poetic language, it is a remarkable statement about the function of respiration in providing 'oxygen' to the body for purposes of metabolism. No such statement is to be found in the whole of Indian medical literature.

Sarangadara Samhita also marks the advent of an important tool in the diagnosis of diseases, viz., *nadipariksha*. *Nadipariksha* is not mentioned

in Charaka or Susruta or the Vagbhata. It is a great advance over the pancha-nidana of the ancient classics. The correlation of the *nadipariksha* with the tridosa theory is indeed a very great achievement.

Sarangadara Samhita is not a Tantric treatise. Though the author devotes the madhya khanda to a detailed description of metals and their purification, mercury and the methods of 'swooning', 'killing' and 'fixing' of mercury, it follows the orthodox system of therapeutics of the ancient classical authorities but admits into the Indian pharmacopoeia important drugs like mercury and opium, and utilises them in therapy.

The last great work of this period is Bhavaprakasa of Bhava Misra. The oldest Ms of this work is dated 1558-9 A. D. and the work cannot be much older than this Ms. It is not an original work but is a vast compilation of material taken from the most celebrated medical works current in the time of the author and as such is important for a knowledge of medicine at the closing period of mediaeval times. It follows the lead of Sarangadara Samhita with regard to the arrangement of its subject-matter. The book is divided into three *khandas*, viz, Purva, Madhya and a Uttra *khand*. It follows the orthodox schools of Ayurveda and deals with the origin of medicine, cosmology, anatomy, embryology, kaumarabhrtya, dietetics, pharmacology, special pathology, therapy, elixirs and aphrodisiacs. It deals with *nadipariksha* and includes mercury and opium in the materia medica. The one great advance noted is the recognition of the new disease syphilis and its treatment with mercury and chobchini. Syphilis is referred to as Phirangaroga and is treated with *rasakarpura* (calomel) and Chobchini. Thus the oxides of mercury find their way into the pharmacopoeia and play a great role in Indian medicine ever afterwards. Bhava Misra was considered a 'jewel of physicians and a master of shastras'. His great compilation marks the last revival of Ayurvedic literature among the Hindus" remarks Sinh Jee.²¹

Before we close the history of this period a mention must be made of the school of Rasasiddhas. This school takes its rise from the Tantric cult. It is maintained that its origin dates from the time the other two schools of Indian medicine arose. It contends that there were three, not two, schools of medicine from the beginning. The head of this school is claimed to be Kasyap. Maheswar or the god Siva learned the rasasastra from Bratma. Maheswar taught the science to Ravana from whom Rama learnt it. Agastya brought the knowledge of the rasasastra to south India and preached it amongst his disciples in Deccan, South India and Ceylon. This is a modern mythical version of the historic fact of the spread of Tantrism from Madhya Pradesh to South India and Ceylon after the destruction and dispersal of the monks at Udantapura and Vikramasila, consequent so the conquests of Mohammadans of these regions about 1200 A. D. "The

quick-silver cures all diseases" is their therapeutic maxim. They have no use for the tridosa theory, nor for the theory of Dravya, Rasa, Vipaka, Veerya and Prabhava in the choice of drugs. They do not acknowledge that any disease is incurable. In short they deny the old classic Indian medicine and in its place substitute the Tantric *rasayana*.²¹

The Mediaeval Period in Indian Mediaeval history was not followed by any renaissance as in Europe. Classical Indian medicine grew in proud isolation of all ancillary sciences except perhaps astronomy and chemistry. Built upon the quick-sanda of speculation, lacking the sure support of exact methods, ancient Indian medicine flagged as soon as the stimulus of guiding philosophic thought was insufficient or wholly wanting. The study of anatomy, physiology, pathology, and diagnosis were more and more neglected. The abnormal conditions in which the physicians of these times were forced to practice led to a decided leaning towards a magical and priestly medicine. The longing for salvation, constantly growing amid depressing conditions, coupled with a strange leaning towards the miraculous finally ended in giving way to the Tantric cults. The only hope was the Saracan renaissance which was at its zenith in the 9th and the 10th centuries. India was in contact with that renaissance spirit at Bagdad in these centuries. At the beginning of the 13th century it looked as if Indian medicine would catch that spirit as witnessed in Sarangadara's samhita. But any prospect of a real renaissance was nipped in the bud by the rise of the school of Rasasiddhas which tolled the knell of the passing of the glorious classical medicine of ancient India.

REFERENCES

1. Itsing : Quoted by Hoernle, A. F. R. Studies in the Medicine of Ancient India. Part. i. Osteology, Clarendon Press, Oxford, 1907. p. 10.
2. Hoernle, A. F. R. : Studies in the medicine of Ancient India, p. 92.
3. Hoernle, A. F. R. : Journal of Royal Asiatic Society, 1906, p. 288-289.
4. Dasgupta, S. : A History of Indian Philosophy, Vol. 11. Cambridge University Press, 1932. p. 435.
5. The Charaka Samhita (Sanskrit). Edited by V. J. Trikamji Acharya 2nd Edition, The Nirnaya Sagar Press, Bombay VI, 3. 15-23.
6. The Susruta Samhita : (Sanskrit), Edited by V. J. Trikamji Acharya, Nirnaya Sagar Press, Bombay. 1935, 2nd Edn 1-38-62.
7. Macdonell, A. A. : India's Past, Motilal Banarasisdass, Delhi, 1956. P. 65 & 66.
8. Barth, A. : The religions of India. Trubner & Co, Ludgate Hill, London, 1882, p. 71-86.
9. Dasgupta, S. : A History of Indian Philosophy, Vol. 1. p. 233 & 235.
10. Barth, A. : The religions of India, p. 210-214.
11. Rasesvara Darsana : Sarva Darsana Samgraha By Madhavacharya, translated by E. R. Cowell and A. E. Gough. Trubner & co, Ludgate Hill, London. 1882. p. 137-144.
12. Rav. P. C. : History of Chemistry in Ancient & mediaeval India. Indian chemical society, Calcutta 1956, p. 121.
13. Barth, A. : The Religions of India p. 210-214.
- 14 & 14(a). Siddiqi, M. Z. : Studies in Arabic & Persian medical literature, Calcutta University, 1959. p. 36-41.
15. Alberuni. : India, Vol. 1. p. Sachau's translation.
16. Dutt, U. C. : The Materia Medica of the Hindus. Thacker Spink & Co. Calcutta. 1877. Intro. p. x 11.
17. Jolly, Julius : Indian Medicine. English translation by C. G. Kashikar, Poona, 1951 p. 5.
18. Ray, P. : History of chemistry in Ancient & Mediaeval India. p. 161.
19. The Sarangadara Samhita. : (Sanskrit) Nirnaya Sagar Press, Bombay, 1932. Purva. Khanda, 5, 44.
20. The Sarangadara Samhita. : Purva Khanda, 5, 49 & 50.
21. Chatterjee, Prabhakar. : Nagarjuna, Vol. i. No. 4. Dec. 1957. p. 32 & 33.

Early Medical Education In Bombay

BY

RUSTOM JAL VAKIL, M.D. (Lond), F.R.C.P. (Lond.).

*Honorary Consulting Physician, King Edward Memorial Hospital and Visiting
Cardiologist, Bombay Hospital, Bombay, India.*

Although a leading center of trade and industry today and proudly referred to by all as "the urbs prima in Indis" or the first city of India, Bombay has had a very long and chequered history with an insignificant and unenviable start. With its marshy soil, defective drainage system and poor water-supply, Bombay "had long borne an infamous character for unhealthiness". Until the middle of the last century, a large toll of life was claimed annually by infectious diseases, including cholera, plague, typhoid and small-pox. It could not even boast of a single good dispensary or hospital for the care of the sick until 1834, when Dr. Makie, with the aid of public donations established for the first time a dispensary, the Bombay Native Dispensary or Hospital, near the Esplanade playground, to attend to the health needs of the ailing poor. Although this hospital was good enough for patients who could walk to hospital for medical care, it offered no facilities or accommodation for the really sick or the bed-ridden. At this time, medical education or training of medical students along modern scientific lines, was virtually non-existent in India. Amongst the earliest institutions established in India to promote and spread medical education along Western lines, may be mentioned the Medical College of Calcutta and the Medical College of Madras. The circumstances, under which the two great medical institutions of Bombay, the Grant Medical College and the Jamsetji Jejeebhoy Hospital, two of the earliest institutions of their kind in this country, came into being, mainly through the united efforts of a few outstanding personalities of the time, both British and Indian, makes a most fascinating and instructive study.

THE GRANT MEDICAL COLLEGE

The idea of forming a scientific medical association in Bombay for medical officers, with a view to promote exchange or spread of upto-date medical knowledge, we owe to Sir Robert Grant, G.C.H., one of the most popular Governors of Bombay Presidency. Soon after entering the city of Bombay as Governor in 1835, Grant realised the importance of establishing a Native Medical School in the Presidency. After considerable investigation and cautious deliberation, on his part, it was decided that a project

of such magnitude should be preceded first of all by certain preliminary measures, aimed at encouraging a spirit of scientific or rational enquiry amongst the Medical Officers of the Establishment existent at the time. Infusion of such a spirit of enquiry into these officers, it was hoped, would not only bring about an elevation in the character of the medical profession but would also qualify them for co-operation in further philanthropic designs. With these considerations in mind, Sir Robert Grant made use of every opportunity available to stress to the medical officers with whom he came into contact at the time, the advantages or benefits of forming a Scientific Medical Association or Fraternity in connection with the Public Service. His efforts were soon rewarded by the establishment and organization of the Medical and Physical Society of Bombay. Within a few months of formation of the Society, the Managing Committee was requested by the Government to take up the subject of medical education of the "natives" and to submit to the Government its "matured opinion on the expediency of instituting a more complete and comprehensive system of Medical instruction".

At the same time, a questionnaire was forwarded by the Government to various experienced medical officers and functionaries of the various districts of the Bombay presidency, with a view to ascertain the exact state of medical practice in the various Provinces and the existence (if any) of prejudices likely to impede the introduction and progress of a better system of medical education and care. All hopes of having a proper scientific medical education in Bombay although expressed from time to time, had been repeatedly shattered in the past by "visionary opinions and imagined difficulties" to the institution of any new programme of teaching medicine.

The results of the enquiry instituted by Government, regarding the status of medical practice throughout the Presidency not only confirmed the "decadent or degraded" state of medical practice as it existed at the time in the various provinces, but also ruled out the possibility of prejudices standing in the way of progressive measures aimed at the betterment of medical practice. Another encouraging feature at the time was resounding success enjoyed by the Bengal Medical College within two years of inauguration.

With these favourable reports in mind, Sir Robert Grant forwarded to Calcutta in 1838, for approval, a proposal or "minute" wherein he not only discussed in detail the subject of "Medical Education of the Natives" of the Presidency and advocated the establishment of a Medical School in Bombay, but laid down certain principles and plans of instruction for setting up a new and revolutionary form of scientific teaching in the proposed Institution.

Before the good tidings of approval of his pet scheme for starting a new medical institution in the Presidency by Lord Auckland's Government could reach Sir Robert Grant's ears, he died at Dhapoorree on 9th July 1839. At a public meeting held on 28th July 1839 at the Town Hall of Bombay, the citizens of this great city, after eulogizing the services of the late distinguished Governor to the Presidency resolved to adopt measures for preserving his memory in the city of Bombay. A subscription was immediately opened for the formation of a Fund to be devoted to the public commemoration of Sir Robert Grant, a man possessed of "rare endowments"—"excellent character and exalted Christian virtues" and responsible for "numerous acts of public administration, calculated to advance the improvement of the country and welfare of all classes". It was also considered appropriate at this meeting to commemorate the name of the late Governor "in connection with the cause of the education of the Natives, of which he was the enlightened friend, the eloquent advocate, and the liberal patron and supporter". The Hon'ble Court of Directors added a sum of about Rs. 45,000, to the amount of Rs. 44,800. subscribed to the Memorial Fund by the friends and admirers of the late Governor, in order to defray the cost of constructing the new Grant Medical College Building according to the original plan proposed by Sir Robert Grant. The Court of Directors also authorized that the new medical school be designated "The Grant Medical College".

After three years of further deliberations of Committees and correspondence with the home Authorities, the Foundation Stone of the College was finally laid on the 30th March 1843 by the then Lord Bishop of Calcutta, at the present site of the College in Bombay. In his stirring address on this great occasion, the Lord Bishop referred to the great services of the late Governor to the Bombay Presidency in the following terms: "The burst of grief throughout this Presidency, and indeed the whole of Hindoostan, at the tidings of his death, is such as was perhaps scarcely ever equalled. Few, very few Governors have fallen in India itself; and the purity of his administration, the splendour of his talents, the vast amount of good he had achieved, the excellence of his private character, the sincerity and dignity of his piety, the very overstrained efforts under which he sank, broke upon every mind". The college building was completed in October 1845 and passed into the supervision of the Superintendent of the College.

THE JAMSETJI JEJEEBHoy HOSPITAL

For the clinical instruction of medical students admitted to the newly established Grant Medical College, the original idea of Sir Robert Grant was to employ the then-existing Native General Hospital of Bombay for the purpose. This idea was soon abandoned when Jamsetji Jejeebhoy, a business magnate of Bombay, touched by the tragic plight of the sick in

this great city, offered to pay, through Sir Herbert Compton, into the Government Treasury, a munificent sum of Rs. 1,00,000 in order to facilitate the establishment of a large hospital with about 300 beds in the city of Bombay "for the relief of the sick Native poor of all denominations". His generous offer, conveyed to the Bombay Government in a letter dated 13th April 1838, was gratefully accepted by the then Hon. East India Company, with a special reference to the generosity of the donor in their letter of acceptance: "—communicate to Jamsetji Jejeebhoy our high approbation of his conduct and our desire to co-operate with him to the utmost, in carrying his benevolent design into effect. We shall of course sanction any designation you may think it desirable to give to the fund for the purpose of showing due honour to this very meritorious individual". The Government incidentally agreed to Jamsetji's terms of contributing an equal amount to the Hospital Fund and to grant interest at the rate of 6 per cent on both contributions. After receiving a cheque for Rs. 1,00,000 and a letter of thanks from Jamsetji Jejeebhoy on 23rd October 1839, for accepting his offer, the Bombay Government appointed a Committee consisting of the Chief Justice, the Bishop of Bombay, Lt. Col. Dickinson, Dr. Morehead and Jamsetji Jejeebhoy to select a site for the Hospital and frame rules and regulations for its management. As a result of the deliberations of the Hon'ble Court of Directors, it was decided to build a new hospital, to be designated henceforth as the Jamsetji Jejeebhoy Hospital, in close proximity to the Medical College and with an accommodation for 300 sick individuals. A plot of land near Babula Talao was bought for the purpose by Jamsetji for Rs. 28,125 and a further donation of Rs. 50,000 offered by him to the Government for the erection of the Hospital building. The existing Professors of the Medical College were entitled to act as Medical Officers to the new Hospital, which was placed under the supervision of the Superintending Surgeon and the Medical Board. An Honorary Board of three managers, including Jamsetji and two nominees of the Government, was appointed to scrutinize the working of the Hospital.

The total cost of construction of the J. J. Hospital came to Rs. 1,35,706, 10. 3, of which Rs. 50,000 was borne by Sir Jamsetjee. A further sum of Rs. 8,531 was donated by the latter for the construction of a clock tower and for purchase of additional land. With the opening of the new Institution, the old Native General Hospital of Bombay was formally closed for good, after its inmates had been transferred to the new building. The cost of maintaining 300 patients at the new Hospital, was estimated at Rs. 33,000 per annum.

The foundation stone of the J. J. Hospital, containing a silver plate inscribed with the following caption over it was laid by the Right Worshipful Provincial Grand Master, Dr. James Burns, on 3rd January 1843, with full masonic honours in the presence of Sir George Arthur,

Bart., Governor of Bombay, and Jamsetjee Jeejeebhoy, who was specially escorted to the site for the ceremony, all the way from his residence, by the Governor.

In the Reign of Her Most Gracious Majesty

VICTORIA

And under the Government of Edward, Lord Ellenborough, Governor-General of India; George, Marquis of Tweeddale, KT., Being Governor of Madras; And the Honourable Sir George Arthur, Bart., K. C. H. Governor of Bombay; The Foundation-Stone of

THE JAMSETJEE JEJEEBHAY HOPITAL

Was laid with Masonic Honours, In the presence of

SIR JAMSETJEE JEJEEBHAY

The Founder, And of His Excellency the Governor,

JAMES BURNS, K. H.,

Provincial Grand Master of Western India; Assisted by The Hon. George W. Anderson, Pro. P. P. G. M. P. W. LeGeyt, Esq., D. P. G. M. Lestock R. Reid, Esq., P. G. S. W. Lieut.-Col. Neil Campbell, P. G. J. W. Capt. W. Goodfellow, the Architect. And a numerous convocation of the Craft, On Tuesday the Third Day of January, In the Year of The Christian Era 1843, And of Masonry 5843. This Edifice Was erected as a testimony Devoted Loyalty to The Young Queen of the British Isles, And of unmingled respect For the Just and Paternal BRITISH GOVERNMENT IN INDIA; also, in affectionate and patriotic solicitude for the welfare of the poor classes of all race among his country-men, the BRITISH SUBJECT OF BOMBAY,

by

SIR JAMSETJEE JEJEEBHAY, KNIGHT

The first native of India honoured with British Knighthood, who thus hoped to perform a pleasing duty towards his Government, his Country, and his people; and in solemn remembrance of blessings bestowed, To present this, His offering of religious gratitude, to

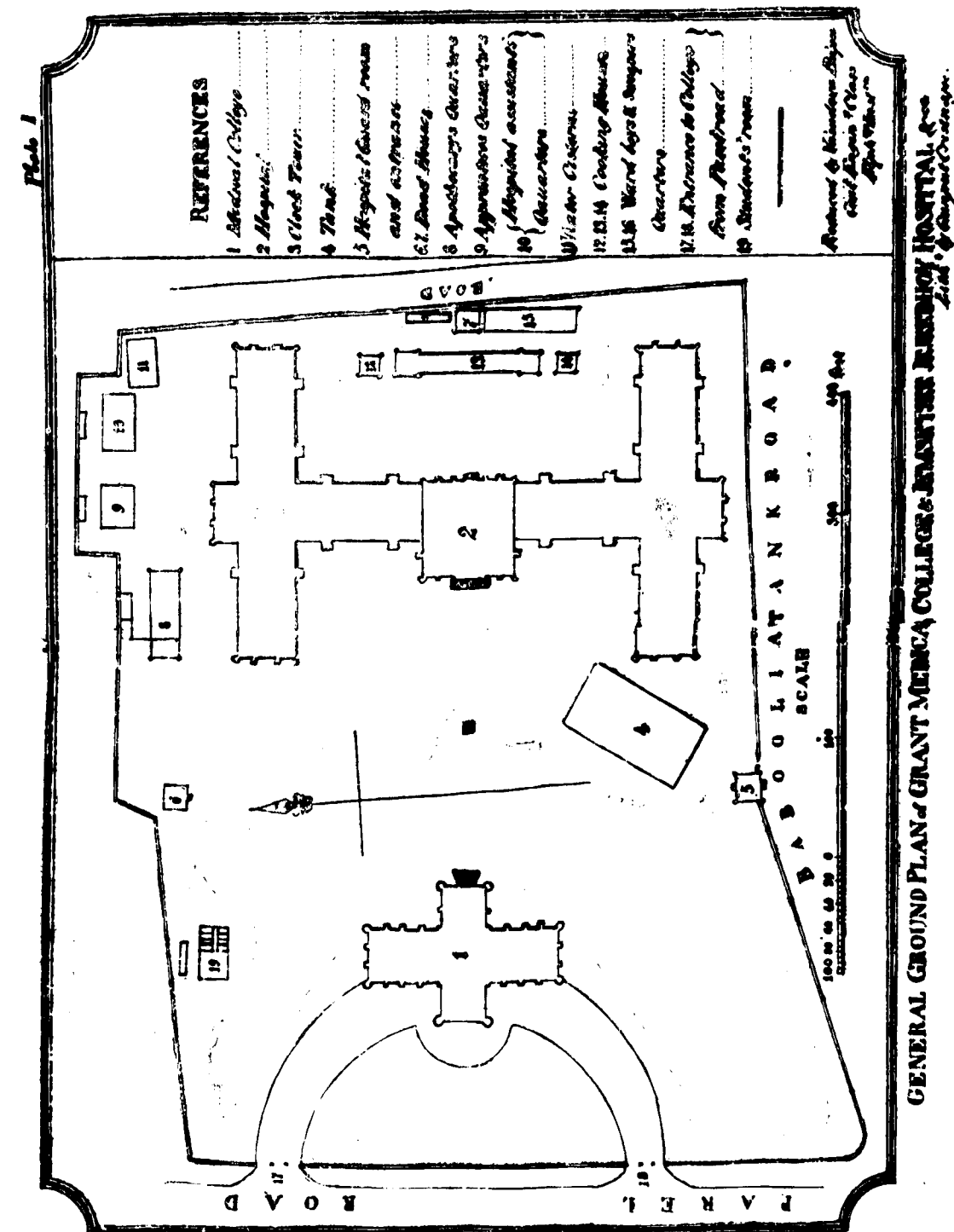


Fig. 1
Original ground plan of Grant Medical College, as planned in 1835.

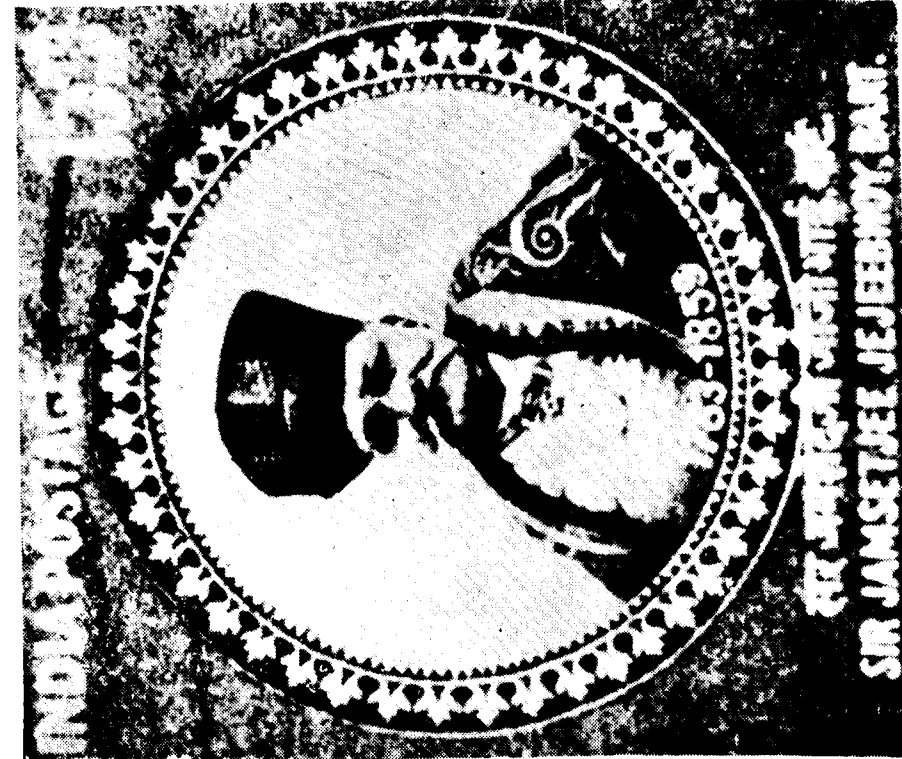


Fig. 3

Sir Jamsetjee Jejeebhoy, First Knight and Baronet of India.
Commemoration Stamp issued by the Government of India.

FIRST REPORT

OF THE

GRANT MEDICAL COLLEGE.

PROFESSORS.

C. MOREHEAD, M.D.,

Professor of the Institutes and Practice of Medicine.

JOHN PEET, Esq., Professor of
Anatomy and Surgery.H. GIRAUD, M.D., Professor of
Chemistry and Materia Medica.

1. The Grant Medical College building was completed in the month of October 1845, and then made over by the Civil Architect to the Superintendent of the College.

Though at this time the fitting up and furnishing of the several Departments of the College had been but commenced, and though the season was not that which was to form the beginning of the College Session, it was considered expedient not to add to the delay which had already attended the preliminary arrangements of the Institution.

2. The 20th October was consequently fixed on for the Examination of Candidates for admission into the College, and was conducted in the presence of the President and Members of the Board of Education.

Fig. 2

First page of the First Report of the Grant Medical College, dated 21st April 1846.

ALMIGHTY GOD

The Father in Heaven Of the Christians-The Hindoo - -
The Mahomedan - - and The Parsee, With Humble, Earnest
Prayer For HIS continued Care and Blessing, Upon his
children - - his family - - His tribe - - and his Country."

The main building of the hospital still bears the following inscription on the Memorial Tablet, specifying the purpose for which the Hospital was erected, viz.

"JAMSETJEE JEJEEBHAY HOSPITAL

This Hospital for the relief of the Suffering poor was
erected and endowed at the Joint expediture of the H. E. I. C.
and the Munificent individual whose name it bears.

A. D. 1843."

The original Hospital building was completed within 2 years and formally declared open on 15th May 1845 by Sir George Arthur, Bart., in the presence of a large and distinguished audience, and the first batch of patients admitted to Hospital on the 28th of the same month.

Initial working of the College and Hospital.—The First Report of the Grant Medical College of 7 pages was published and distributed on 21st April, 1846 under the signature of C. Morehead, Supt., Grant Medical College. After the hand-over of the Grant Medical College building, by the Civil architect to the Superintendent of the College in October 1845, despite certain difficulties, it was resolved not to delay any further the working of the College and to hold an Entrance Examination for prospective candidates, seeking admission into the College, on 20th October 1845, in the presence of the President and Members of the Board of Education. Of the total of 29 candidates (inclusive of 9 Portuguese and 3 Parsees) who appeared for examination, 12 were found qualified for entrance to the College.

During the first term of instruction, from 1st November 1845 to the first week of April 1846, students were required to attend College from 10 a.m. to 4 p.m., and were instructed in Anatomy by Mr. John Peet. Professor Anatomy and Surgery, and in Chemistry by Dr. H. Giraud, Professor of Chemistry and Materia Medica. Dr. C. Morehead, besides being Superintendent to the newly instituted Grant Medical College. The medical students of the first batch belonged to two main categories, viz., 5 *free* students and 7 *stipendiary* students.

During the first term of the Grant Medical College (1845-1846), students were instructed only in Anatomy and Chemistry. In the case of the former, they received demonstrations of bones, ligaments, muscles and some of the arteries of the human body, some of these items being “demonstrated, as minutely as at the Schools in England”. The course of chemistry during the same session was much more intensive and consisted of 80 lectures on various aspects of the subject, including the objects of chemistry, the general properties of Matter, the Laws and phenomena of light, heat and electricity, the laws of chemical affinity, chemical symbols and nomenclature, the atomic theory, and properties of non-metallic and metallic elements.

At the end of the first term in April 1846, the College Library could boast of a total of 170 volumes, officially sanctioned by the Board of Education, whilst the Anatomical Museum contained, besides a judicious selection of preparations, human and animal bones, wax models and plates received from England, a fair number of specimens prepared on the spot by the Professor of Anatomy and others. Despite offers made by the Honorable Court of Directors from time to time for supplying liberal quantities of chemical apparatus for the Chemical Laboratory, the latter was still far from being adequately equipped for teaching purposes.

Several endowments, including the Anderson, Carnac and Farish Scholarship Funds and the Sir Jamsetjee Jejeebhoy Medical Book and Prize Funds, were soon obtained and utilized by the Grant Medical College for the “reward and encouragement of deserving students”. The sums subscribed for the various scholarships and prizes at the inception of the College, were as follows;

Anderson scholarship fund	...	Rs. 10,700
Carnac scholarship fund	...	Rs. 10,000
Farish scholarship fund	...	Rs. 7,960
Sir Jamsetjee Jejeebhoy Medical Book fund	...	Rs. 10,000
Sir Jamsetjee Jejeebhoy Prize fund	...	Rs. 5,000

The annual interest from the Sir Jamsetjee Jejeebhoy Medical book fund was to be utilized by the College in supplying medical books, required by the students, at a concession.

The *Syllabus* of study or course of instruction, which was laid down by the college authorities for future adoption in the College, was formally

sanctioned by the Education Board and publicly notified in the Government Gazette. According to this notification, chemistry, anatomy, the Institutes of medicine (including the principles of physiology, pathology, therapeutics), materia medica, pharmacy and elements of botany were to be taught during the first three years of study, and surgery, practice of medicine, midwifery and medical jurisprudence during the fourth and fifth years of the medical course. The teaching of anatomy, surgery and clinical surgery were allotted to Mr. Peet, of the institutes of Medicine and clinical medicine to Dr. Morehead and of chemistry, materia medica and medical jurisprudence to Dr. Giraud.

For admission to the first regular Session of the College of 1846-1847, in accordance with the newly sanctioned course of instruction, and commencing on the 15th June 1846, 14 candidates were selected from the total of 21 who appeared for the entrance examination on the 13th and 14th April, 1846. The following Scholarships were announced for competition in the month of April 1847 and were open to both free and stipendiary students: (1) A Carnac scholarship of Rs. 30/- monthly for greatest proficiency in anatomy and chemistry, (2) a Farish Scholarship of Rs. 20/- monthly to the best chemist and (3) an Anderson Scholarship of Rs. 20/- monthly to the best anatomist.

The total number of students, at the opening of the 1846-1847 session in the Grant Medical College, was 22 students, of whom 3 were free and 19 stipendiary students. The session was opened on 15th June 1846 with an introductory lecture on the Objects of Medical Science. The attendance of the students was rather irregular and unsatisfactory to begin with, with the exception of Nusserwanji Bomanjee who was not absent even once in Hospital or College attendance.

During this first regular session, 123 lectures and demonstrations in General and Descriptive Anatomy were given by Mr. Peet, but through too much time being devoted to the study of bones, ligaments and muscles of the body, sufficient time was not left to deal adequately with the viscera of the chest, abdomen and pelvis. It was resolved therefore, as admitted in the Annual Report that “In future”, description of the bones and ligaments “may with propriety be somewhat curtailed” and more time devoted to “so important a branch as that of the viscera”. Some of the earliest of the preparations and illustrations in anatomy were prepared by two of the students, Atmaram Pandurang and Burjorjee Dorabjee, who were cited for having “shown much zeal” and “a tolerable degree of neatness and dexterity”.

Of the 111 lectures in chemistry given by Dr. Giraud, some were devoted to Light, Heat and Electricity, the majority of students being

“so little acquainted with physical science”. Six of the students were said to have done very well indeed, having “advanced beyond what is usually expected of students in the first year of their studies”. As the result of the scholarship examinations conducted for the first time, the Farish, Anderson and Carnec Scholarships went to Bhawoo Daji, Atmaram Pandurang and Sebastian Carwalho, respectively. Holding a salaried office in College, Bhawoo Daji “was desirous of foregoing the pecuniary advantages of the Scholarship” being “satisfied with the honorary distinction which its award conferred on him”, a magnanimous gesture indeed for a free student.

The library was enriched during the year by the addition of 240 medical second-hand volumes, purchased in London with only Rs. 1,000, a sum placed at the disposal of the Board by the Government.

During the second regular session of the College, the attendance of the students was much more regular than in the previous year 1846-47, the irregularity in the latter year having “proceeded for want of reflection on the importace justly attached to regularity as a part of Academic discipline”.

Some of the text books (mentioned in the third annual report) (1847-1848), and in vogue at the time, include the following: Cooper's First Lines of Surgery, Watson's Lectures on the Practice of Physic, William's Principles of Pathology, Cooper's Surgical Dictionary and Ferguson's Practical Surgery. An appeal was made during the session for added facilities for students, *viz.*, a refreshment room and a bathing room “in consequence of the distance at which many of the students resided from the College” and “being absent from their homes for 8 to 9 successive hours”.

SIR JAMSETJEE JEJEEBHoy, BART

No account of the J. J. Hospital would be complete without a brief reference to the life sketch of the donor, Jamsetjee Jejeebhoy. Youngest son of Jejeebhoy Vatcha, a poor weaver of Navsari, Jamsetjee was born in Bombay on 15th July 1783, in a poor locality or mohalla near Crawford Market. Orphaned at the age 15 in Navsari and almost penniless, he returned to Bombay to eke out a living in this city, under the guidance of his uncle, by selling empty bottles. Inspired by the pioneering trip of Hirji Readymoney to China and with his natural love for adventure, Jamsetjee undertook five perilous trips to China, in small sailing ships weighing about a thousand tons each, in order to build up business relations with Chinese merchants overseas. During one of these voyages he was held captive by the French and deprived of many of his worldly possessions. Despite many vicissitudes, including the death of six of his offspring in infancy, he was able to build up a huge fortune, through business ties with distant lands, including China, Egypt and the United Kingdom.

His generosity for the poor and his interest in lost causes knew no bounds. Always ready to help the needy with handsome donations. he was responsible for establishing, besides numerous schools and charitable institutions, the first civil hospital of Bombay, the first gynecological or lying-in hospital of Bombay, numerous wells and waterways in the suburbs and villages of Bombay presidency, the first great causeway of Bombay, the first waterworks of Poona and the first School of Art (J. J. School of Art, 1857) in the entire Province. Married off to a 10 year old girl, Avanbai Bottlewalla, at the age of 20 years, Jamsetjee, had many firsts to his credit. For his great munificence and generosity of heart, he was amply and rightly honoured during his life-time, being perhaps the most honoured Asiatic of British days in India. He was the first and only Indian Director of the Bombay Bank, the first Honorary President of The Bombay Association, the first Indian Fellow of the newly-established University of Bombay (despite the fact he never attended school in all his life!), the first Asian to receive Knighthood from the British, recipient of a specially-made, diamond-studded gold medal from Queen Victoria “in honour of his munificence and patriotism” and the first Asian to receive the Freedom of the City of London in 1855, a unique honour bestowed on him “as a testimonial of the high estimation entertained of him by the Corporation of the City of London and from respect for his justly renowned character as a princely benefactor of his country and mankind - a noble example of blameless private life and public worth as a citizen of Bombay, and of spotless commercial integrity as a most eminent British Subject and Merchant in India”. On 24th May 1857, Jamsetjee attained the peak of his glittering career, when Baronetcy was conferred on him by Queen Victoria in her Birthday Honours List. All his innumerable contributions and donations to deserving causes were characterized by one salient and admirable feature; no distinction was ever made by him, in his charities, regarding the caste, colour or creed of the needy recipient.

On 15th April 1859, the day of Jamsetjee's death, the entire city of Bombay was in mourning. All the banks, government offices, schools and shops were kept closed on that day and flags flew half-mast all over the city as a mark of respect to a great citizen and friend of the poor. Writing of him in his *My Recollection of Bombay*, Sir Dinsha Wacha rightly says that “The great hospital which bears his (Jamsetjee's) honoured name is a living proof of his benevolence in reference to the relief of suffering humanity. Millions of men, women and children have benefited and are still deriving benefit from that charity. Other merchant princes have flourished and shown their philanthropy in different directions; but it may be said with truth that none has surpassed him. His name will remain enshrined in the memory of generations yet unborn”.

THE NEW J. J. HOSPITAL

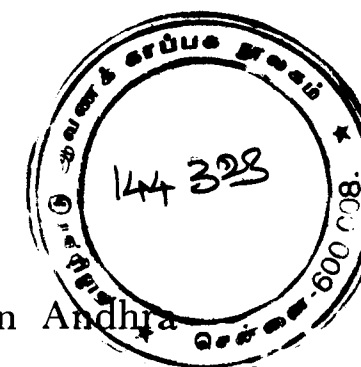
On the 13th June 1958, 115 years after the founding of the old J. J. Hospital, the foundation stone of the *new* J. J. Hospital Building, was laid by the Chief Minister of Bombay, in the presence of a distinguished gathering, including Sir Jamsetjee Jeejeebhoy, the Sixth Baronet. Scheduled to be the largest hospital of its kind in the whole of Asia, this 7-storeyed building boasts of 12 air-conditioned operation theatres, 40 wards, and accomodation for 650 patients, and extends over an area of about 420 thousand sq. feet.

ACKNOWLEDGEMENT

My thanks are due to Dr. Miss Freny Marker and Dr. Virkar for collection of early data and to Mr. Maneckji Petit for valuable suggestions and correction of drafts.

REFERENCES

1. Genesis of J. J. Hospital: Sir J. J. Group Hosp. Souvenir, May 1961. p. 25-45.
2. Mody, J. R. P.: Jamsetjee Jeejeebhoy, Bombay, p. 1-188, 1959,
3. Mody, J. R. P.: Jamsetjee Jeejeebhoy, Kaiser-I-Hind, p. 6, 12th April 1959.
4. Mody, J. R. P.: Sir Jamsetjee Jeejeebhoy, First Baronet, Bombay, p. 1-32, September 1959.
5. Mody, J. R. P.: Jamsetjee Jeejeebhoy, Sir J. J. Group Hosp. Souvenir, May 1961, p. 57-64.
6. Morehead C.: First Report, Grant Med. Coll., p. 9 to 15, April 1846.
7. Morehead, C.: Reports, Grant Med. Coll. Bombay Education Soc. Press 1849. p. 1-8.



A Medieval family of Six Generations of Medical men in Andhra (1250 - 1450 A. D.)

BY

HARI. ADI SESHUVU, M.SC., A.R.I.C.,

Lecturer in Chemistry, Guntur Medical College.

Six generations of physician-surgeons belonging to a single family lived in Andhra country during the period from 1250 - 1450 A.D. Service to living beings was their motto. One of them could count even a cobra among his patients! This is a unique example in the History of Ayurveda and unparalleled in the History of Medicine in India or elsewhere.

We have a brief account of this seemingly unbelievabale instance in the Kaluvacheru grant of Annathalyambika. That inscription deserves a fuller consideration from the point of view of the History of Medicine. With that as the aim a substance of the contents of the inscription with a few relevant comments will be given in the course of this paper.

Kaluvacheru grant of Annathalyambika refers to a very minor incident in the Andhra History. It refers to the donation of the village Kaluvacheru (East Godavari District) to a physician surgeon Parahitharya. The inscription is significant only on account of the recipient being a physician. Text of the inscription is in lucid Sanskrit verses. The authenticity of the inscription has been accepted by all the Andhra historians and the date of the same is 1423 A.D., from undisputable internal evidence. Annathalyambika was the queen of Virabhadra Reddy;* a celebrated name in Andhra history. The recipient, Parahitharya, was a member in the sixth generation of a famous line of physician-surgeons of proved ability. The grant of a village, from other similar examples in Andhra history, should be considered as a significant token of patronage extended by the donor in recognition of meritorious services rendered by the recipient, either to the patron or to the community.

*Virabhadra Reddy was the ruler of the Godavari region for about 25 years. He ruled the kingdom ably though he occupied the throne inherited by his wife Annathalyambika. His elder brother Vema Reddy, who was valiant and also loyal to him, was a tower of strength during his reign. His reign was strong and peaceful while the rest of the Andhra Country was in a disturbed state. Virabhadra Reddy was a patron of letters. His name is immortal in the History of Telugu language as the Royal patron of poet Srinatha. Srinatha was the most widely travelled of all the classical Telugu poets who earned for himself laurels in all the Royal Courts in Andhra of the day, and the title of Emperor in the Realm of Telugu poetry by the display of his scholarship and literary abilities. Srinatha has many good poetical works in Telugu to his credit and one of them 'Kasikhandamu' (the story of Benares) has been dedicated to Virabhadra Reddy.

The grant was made in a specially convened assembly of distinguished persons. The venue of the assembly was the village temple, the temple of Lord Rameswara with his consort. The king, his elder brother, who was also the defender of the realm, and other elders, by which ministers of state as well as advisers both secular and religious are meant were present on the occasion. The style in which such functions were got up in those days usually enhanced the material value of the honour and must have been considered as the highest coveted honour for which one could aspire.

A eulogistic account of the abilities of Parahitharya, his brothers and predecessors has been given in the inscription. It is probably with a view to justify the grant as a fitting reward. It runs as follows:—

“A physician-surgeon Parahitha by name lived in the Andhra country. He could cure all ailments. He had a son named Mallinatha who was a great physician. Mallinatha had a son whose name was parahitha. This Parahitha was a great devotee of Lord Siva. He lived a pure life. His life was so sanctified that it was of a higher order than that of the most sanctified and all purifying Ganges. This Parahitha once saw a cobra suffering. A long bone was stuck up in the throat of the cobra. It was not able to bring its jaws together or to swallow and thus was put to unbearable suffering. Parahitha was moved with pity. He approached the cobra. He treated it without any hesitation or fear and relieved it from the suffering. The word Parahitha literally means one who wishes all people to be well. By his act of kindness to the poisonous cobra Parahitharya's name came to be literally true in his case. Thereafter, it became a family name. Parahitharya was a well read man in all the Vedas. His son was Sri Rama Natha who was unequalled in learning. He had three sons who resembled the three branches of knowledge and the three forms of Fire-God in purity. They were known as Viswa Parahitha, Devanarya and Sri Kalanatha. Sri Kalanatha was known as Master-physician. He had three sons Parahitharya, Devanarya and Varadarya. Each of them is such that he alone could redeem the natural debt every one owes to his predecessors by virtue of the abilities he inherits from them. Parahitharya is the eldest of the three and is the recipient of the grant. He belongs to the long line of descendants of the sage Athri. He is religious in outlook. He performs, in time, the duties ordained in the Vedas for him. He is popular, kind hearted, well versed in arts, rich, well versed in

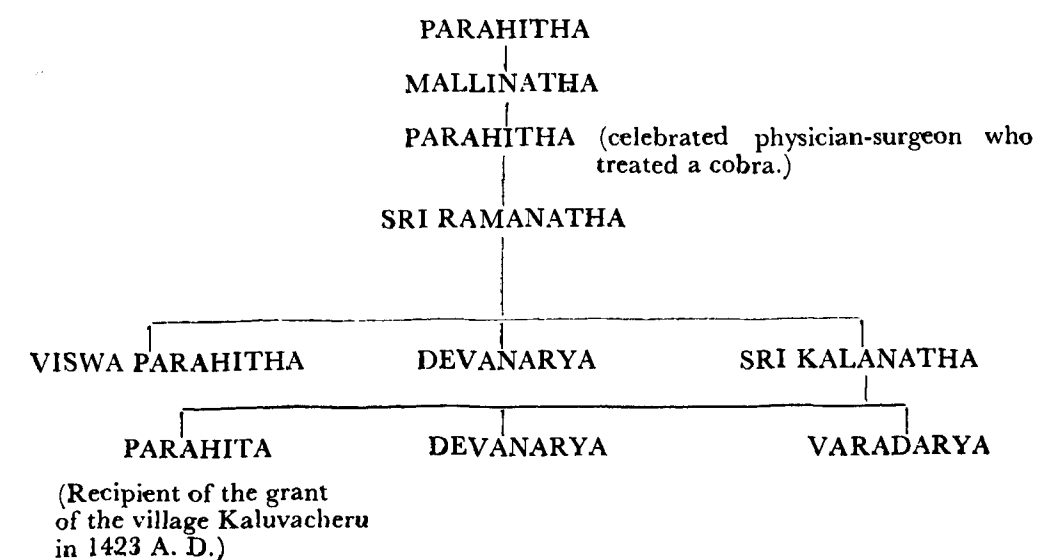
the treatment of all living beings both men and animals, of all ailments, whether their root cause is illness or poison or psychic disturbance, caused by ghosts. Parahitha Vaidya is proficient in the use of all medicines which are at his command. He is pleasing in appearance and is like the full moon in bringing cheer to all.”

A word about Devanarya, younger brother of Parahitha. He is of philosophical temperament. He is faultless in word. He is an able physician and liked by all; he is serene and never perturbed. He has no worldly desires and is a blessed one.

Varadarya is the third son of Sri Kalanatha. He is a good scholar and a devotee of Lord Siva. He is distinguished by his regard for his brothers. He has conquered selfishness.

To Parahitharya, the pious, well-read physician who is pure in thought, word and deed, Annathalyambika, along with her husband, donates the village Kaluvacheru after renaming it as Annavaram, this day Eleventh day in the dark fortnight of the month of Sravana in the year Sobhakrit and of the Saka Year 1345. This donation is made in the presence of her husband's elder brother and other elders, in the temple of Lord Rameswara beseeching the Lord's grace for the benefit of her husband.”

The following geneological line of Parahitha can be built up from the data available in the inscription.



By 1423 A. D. when he received the grant of the village, Parahitha was already a physician with a well established reputation. Therefore, his age may be estimated to be at least about 30 years. It would not be far from accuracy if we consider that he and his younger brothers continued to serve the people, for at least another 30 years, *i.e.*, upto 1450 A. D., nearly. The first Parahitha described as a physician in the inscription was sixth in the line preceding Parahitha, the recipient of the donation. Historians generally allow 30 years as the average duration of each generation. So, we can estimate reasonably that Parahitha I started his career some time about 1250 A. D., nearly 180 years prior to the date of the Kaluvacheru grant.

The physician-surgeons of the Parahitha have served the people in a part of the Andhra country for two centuries and earned for themselves an enviable place.* They and along with them, their Royal patrons Annathalyambika and Virabhadra Reddy occupy a proud and privileged place in the History of Indian Medicine.

REFERENCES

1. Subba Reddy, D. V.: Medical Relief and Practitioners in Andhra Pradesh in Medieval Hindu Period, Indian J. H. M., Vol. II, No. 1, pp. 58-9 (1957).

*A manuscript copy of a book 'Parahitha Samhitha' in Sanskrit verse has come to light. The book consists of three parts, one part is printed and two parts are still unpublished. The Department of History of Medicine is studying the manuscript. The name of the book and its contents indicate that it is most probably the accumulated medical knowledge of the famous Parahitha line of physician-surgeons and was compiled probably by the third or fourth in the line. We are making earnest attempts to publish the book very soon.—Ed.

Historical Sketch of Chest Diseases in Ayurveda

BY

Dr. D. V. S. REDDY and Sri B. RAMA RAO,

Department of History of Medicine, Osmania Medical College, Nizam Bagh, Dewan Devdi,
Hyderabad-2, Andhra Pradesh.

INTRODUCTION

Medicine, in ancient times remained only a craft or an art and did not develop into a science till the renaissance. Without the light of the recent knowledge of physics, chemistry, technology, ignorant of results of human dissection or experimental physiology and autopsy records, without the aid of laboratory, radiology and endoscopy, any concept of diseases inside the chest, could only be a sort of groping in the dark, a mere guess work based on experience or left to intuition or guided by astrologers or soothsayers. In the absence of biological, anatomical physiological knowledge, biochemical and bacteriological techniques, the ideas of causation of such diseases could only be attributed to either demons, sorcery or be based on speculative philosophy, religious doctrine of sin, disposition of astrological constellations or vagaries of humoral disequilibrium etc. The lines of treatment adopted naturally stemmed out of current theories of causation and fancied therapeutic qualities of leaves or herbs, galenicals and animal products or magical spells or amulets. Before the advent of Aneasthesia, Asepsis and Blood transfusion, Chest surgery is unthinkable and there could have been no attempt at or even thought of, operative interference or correction or even relief of chest diseases by surgical means.

In ancient India, as in Egypt or Greece, Medicine, which was first empirical and sometimes mixed up with philosophical speculations and often based on what have been called Humoural theories, gradually evolved a sort of practical classification of diseases, primarily according to the regions of the body affected, *e.g.*, diseases of the head, diseases of the throat, diseases of the chest, diseases of the abdomen, diseases of the limbs etc. Further recognition or sub-division of chest diseases was made dependent on the dominant or prominent symptoms or groups of symptoms and the accompanying signs or their evolution in the course of disease. History of the development of the diseases, including the familial, constitutional factors, the previous history of the patient, the predisposing and precipitating causes such as environmental, social and psychological conditions and

incidents were also enumerated the current theories of the causation of the disease and the traditional views of the actions of various types of treatment determined the therapeutic procedures and other methods employed.

VEDIC LITERATURE

The earliest source materials available in India for the reconstruction of History of Medicine or atleast to infer the existence of diseases, their types and their treatment, are, not archaeological finds like panels or paintings or inscriptions or manuscripts, but only literature, which has been preserved, not by writing or by records, but handed down by oral transmission from generation to generation from teacher to pupil.

In the Rigveda, some of the Hymns contain prayers to Gods, who are endowed with powers for relief of suffering from sickness, such as Rudra, while some hymns sing the praise of herbs for their medicinal values and cure of diseases. Griffiths refers to Ragozin's comment that ancient Indians recognised heredity as a lurking factor. In a Hymn describing Surya's bridal (Book 10 Hymn 85) there is this remarkable prayer ;-

“Consumption, from her people, which follow the brides
resplendent train,
these let thy Holy gods again bear to the place
from which they came.”

The celestial physicians, the Ashvins, and their miraculous cures are also praised. There are also charms and incantations to drive away certain diseases like consumption etc.

In the Atharva Veda, there are references to many diseases and their treatments by herbs or by incantations or by rituals or by all, simultaneously. There are also references to demons of ill-health and diseases and the manner of propitiating them. There are allusions to a disease called 'Yakshma' or Shosha, a condition, which bears resemblance to consumption and to charms against cough. Griffiths translates 'Balasa' from 11th and 12th verses of Hymn XXII, Book V of Atharva Veda as decline or consumption. Thus ;-

“Take none of these to be thy friends cough or
consumption or decline,
Never come thence again to us! O fever! I counsel thee,
Go, fever, with consumption, thy brother and with thy
sister cough,
And with thy nephew Herpes, go away unto that alien folk.”

There is also mention of heart diseases, of plants like Kipudru for relief of heart-ache as well as incantations, praying the water of Sindhu to carry off the heart-ache.

SANSKRIT MEDICAL CLASSICS

In *Agnivesha-Charaka Samhita*, the earliest medical classic of India, in *Chikitsa Sthana*, (section on Therapeutic) there is a whole chapter No. 8, on Consumption. It deals with the causation, predisposing factors, the symptoms, signs and the principles of treatment, including dietetic remedies, suggesting baths and regimen. Religious sacrifices are also recommended. In chapter 17, two important symptoms, Dyspnea and Hiccup are dealt with. Dyspnea, its varieties and the lines of treatment are indicated. The causes and types of prognosis of Hiccup are described. Chapter 18 describes the varieties of cough, their causes, symptoms and treatment by medicated ghees and by other remedies or through inhalations, medicated cigars and dietetic regulations. In chapter 16, there is a brief account of the treatment of heart diseases.

Bhela Samhita (believed to be contemporaneous with *Agnivesha-Samhita*) describes the signs and symptoms of Consumption caused by the usual four causes and mentions some special prescriptions and also adds the dietetic changes and regulations. It also describes the five kinds of cough and gives some prescriptions. The usual number of heart diseases is mentioned and the line of treatment indicated. A few prescriptions including powders, medicated ghees as well as dietetic regulations are described.

In *Sushruta Samhita*, in *Uttara Sthana* (supplement) there is a discussion of various names of the disease, usually called *Shosha*, and the identity or unitary nature of all these diseases. There is also a definition of the word *Hikka* or Hiccup, and an account of its varieties, diagnosis, prognosis, ordinary treatments. *Sushruta* also deals with Dyspnea, its diagnosis, causes, curability or incurability, methods of treatment by medicated ghees and oils, special diets, powders, drinks and other compound medicines. Next, there is an account of the common causes of cough, its varieties, premonitory symptoms, signs of different types of cough, their diagnosis and usual methods of treatment, according to the nature of cough, by means of medicated ghees, powders, regulation of diet and compound prescriptions.

Sushruta mentions that in ulceration of chest, the patient brings up during cough yellow, red, black and brown Sputum with foul smell.

The Bower manuscript, the earliest datable medical manuscript of India (4th century A.D.) does not describe the diseases, their classification or signs and symptoms, but gives only prescriptions, like medicated oils, ghees, powders etc., for different diseases. Some prescriptions useful for cough, consumption and heart diseases are also found in this manuscript.

The well-known prescription for cough, consumption etc., *Chyavanaprasha* is also mentioned in this early medical note-book. This famous prescription mentioned in the earlier *Samhitas* like those of *Charaka* and *Sushruta* has been recommended by later writers, like *Vagbhata*, *Vrinda* etc., as a famous recipe for consumption.

The last of the three great ancient writers of *Ayurveda*, *Vagbhata*, 6th or 7th Century AD) in his section on *Nidana* (diagnosis) describes the varieties, causes and signs of cough, due to *Vata*, *Pitta* and *Kapha* and cough due to injuries to the chest and cough due to disease, *Kshaya* (consumption). He also describes the prognosis of cough and the dangers resulting from the negligence of timely and proper treatment of cough. *Vagbhata* also writes on the diagnosis of Dyspnoea, its varieties and their prognosis. He also deals with Hiccup along with Dyspnoea and describes five varieties of Hiccup and their prognosis. It is also interesting to read that Dyspnoea and Hiccup often go together and they frequently put an end to life very quickly. There is also a detailed account of various names of consumption and the four main causes of consumption, prodromal symptoms, the eleven manifestations and particular signs due to the different humours or combination of humours and the complications of consumption. He also offers an explanation why in *Shosha* parts of the body do not receive their nourishment and grow. *Vagbhata* writes that heart disease is of five types, due to the three humours individually and all acting at the same time, and due to *Krimis* and describes the special features of each of these five types of heart diseases.

Vagbhata also deals with chest diseases in *Chikitsa Sthana*, with the treatment of various types of cough and mentions a number of methods of treatment suitable to different types of patients. Similarly, he also prescribes various types of treatment for Dyspnoea and includes sweating, vomiting, other methods of elimination, inhalations, decoctions, dietetic alterations, various kinds of drinks, snuff, and nursing and advocates sedatives and tonics. In the treatment of consumption, he prescribes a procedure, starting with vomiting or emesis, laxatives, animal foods, extracts of meat, wine, medicated ghees, tonics, snuffs, elixirs and treatment of symptoms like fever, Anorexia, dyspepsia etc., and also mentions special methods of treatment like venesection, oil-baths, application of massage, and ointments. In the treatment of heart diseases, medicated oils, decoctions and sweating are mentioned. He also refers to heart diseases accompanied by loss of consciousness and mentions articles of diet which have to be avoided by heart patients. He alludes also to varieties of heart diseases, some exacerbated after food and some before food.

Madhavakara, in *Rigvinishchaya*, the first *Ayurvedic* treatise exclusively devoted to the signs, symptoms and diagnosis of diseases, also summarises the knowledge of ancient Hindus in this particular branch, about 8 or 9th century A. D. It may be noted that *Madhavakara* takes this information

and even verses from *Agnivesha-Charaka Samhita* and *Sushruta Samhita* and can be considered only as a compiler of extracts from older works relating to the subject of signs and symptoms of the diseases and not as an original writer. This work deals with *Raja Yakshma*, (consumption), its signs and various forms or manifestations, indications of curability or incurability, classification according to predisposing and precipitating causes (such as sexual excess, sorrow, excessive physical exercises, ulcers, injuries to chest etc.) and describes their special signs and symptoms. He mentions that a physician aspiring for fame should treat only a strong patient with a recent onset of the disease and with a good appetite. The book also enumerates the factors which give rise to cough and the varieties of cough such as due to *Vata*, *Pitta* and *Kapha*, excessive exertion and effort due to consumption and the differences in the symptomatology of each variety. Immediately after cough, *Madhavakara* considers the causes of Hiccup and Dyspnea together. He also mentions the causes of Hiccup, prodromal symptoms and five forms of Hiccup which differ in their point of origin and physical effects and also the types of Hiccup which are incurable or fatal. The varieties of *Shvasa* or Dyspnea are said to be five, such as, due to *Vata*, *Kapha* and due to joint action of *Kapha* and *Vata* etc. The signs and symptoms of these five varieties of Dyspnea and the symptoms which are useful in prognosis are described. There is a separate chapter on *Hrid-roganidana* (diagnosis of heart diseases). Here, again, five kinds of heart diseases are described and the causes explained. Four of the heart diseases are supposed to be due to *Doshas* (humours) and one is said to be due to a parasite called *Hridayada* (heart-eater). Eating of hot food, taking of excess of *Kashaya* and *Tikta* foods, constant introspection, suppression of calls of nature etc., are said to bring about a disturbance of humours and interfere with the absorption of digested food and affect the heart. The particular signs of each type of the heart disease are also described.

Ugradityacharya, a Jain writer of 9th century, in his treatise, *Kalyanakaraka* describes the five varieties of cough, Hiccups, consumption and heart diseases and gives some prescriptions for each disease.

Rasaratna Samuchchaya, a mediaeval treatise dealing exclusively with the purification of metals and preparation of metallic and mercurial compounds, describes several mineral and mercurial preparations for chest diseases, such as cough, consumption, Hiccup, Asthma, and heart diseases. Most of these compound medicines contain mercury, copper, sulphur, mica, other minerals and herbs and require elaborate and tedious methods of preparation.

Vangasena, (about 12th Century A.D.) mentions the symptoms of *Urograha* as pain, sensitiveness to pressure, flatulence, swelling of the belly and heart, retention of wind, urine and stool and loss of appetite. The treatment is perspiring remedy, heating and blood-letting.

The last of the great compilers in *Ayurveda*, *Bhavamishra*, who lived in 16th century A. D., in his treatise *Bhavaprakasha*, deals with cough as a disease and defines and describes cough, classifies cough into five types, gives the premonitory symptoms and proceeds to describe signs and symptoms of cough due to *Vata*, *Pitta* and *Kapha* and due to excessive exertion and cough due to consumption. He adds a few words on the prognosis of cough and complications of neglected cough and procedures and medicines. This is followed by a chapter on Hiccup, where five varieties of Hiccup are described, and the common character of Hiccup and special features of the five varieties of Hiccup and the treatment of Hiccup. Next, the author deals with Dyspnea, its causes, varieties and their special characteristics and treatment. Lastly, in the chapter on heart diseases, he begins with the diagnosis of heart diseases, causes of heart diseases, five varieties, complications and dangers of heart diseases and their treatment, giving some prescriptions not mentioned in the older texts.

CONCLUSION

Indian medical classics do not contain any individual clinical case reports, nor do they narrate the chronological stages of disease or describe the conditions before or after the treatment. All the classics begin in the monotonous manner, commenting with non-specific causes or humoral causation of the particular disease, describe signs and symptoms, main types of the disease and close with treatment and prognosis. There were no hospitals for the maintenance of records of incidence of these diseases or the mortality rates in these diseases. The treatment was invariably carried out in the house of the patient, (domiciliary treatment) and consisted of dietetic regimen, nursing, administration of medicines, simple or compound and in addition, psychological treatment by prayers, charms and such other things and religious rites and rituals like Homa, Dana, Shanti or Navagraha Puja or by recourse to sorcery, etc. It is a moot question, whether the surgical procedures enumerated in *Sushruta*, have ever been put into practice in India and whether any practitioner in ancient India dared to explore the chest in a living being.

Therefore, other source materials, direct or indirect evidences of diseases should be carefully searched. A close study of the skeletal remains excavated in different archaeological sites may yield some information on the diseases of the chest. Similarly, the close inspection of various sculptures, painting and panels may help to identify some deformities or peculiarities of the chest or spine. The Epics, Puranas, Dramas and Kavyas in Sanskrit literature and various historical and biographical works in regional languages have yet to be explored for allusions to diseases of heart, lungs, or chest. There are purely historical works and accounts which also refer incidentally to the diseases of the chest, as well as to war injuries and wounds

of the chest, in ancient times or in mediaeval epochs or during British period. All these literary sources have to be studied in their original with the aid of competent scholars and the symptoms and signs or syndromes defined or interpreted by competent scientists, chest physicians and surgeons.

It is hoped that the holding of an International Congress of Chest Diseases in India will give the necessary stimulus to the Indian Medical practitioners and teachers of the medical colleges, as well as to medical students to commence a systematic study of the origin, evolution and development of our knowledge of the diseases of chest in India. If this article serves as a sub-maximal stimulus to bring about a good response in the minds and attitudes of the Indian Medical profession, and prompts them to probe or dig into the past records and literature in India, at least, in future, some of the specialists in chest diseases may succeed in producing a comprehensive history of this subject in this country by the time the next Congress of Chest Diseases meets in India.



A Short Account of Chest Diseases in Unani Medicine

M. AZEEZ PASHA,

Arabic & Persian Scholar, Department of History of Medicine, Hyd. AP.

ALI BIN RABBAN-AL-TABARI (died after 850 A.D.)

Ali, in his famous book called 'Firdausu'l Hikmet' (Paradise of Wisdom) deals with "HEART DISEASES", their signs and symptoms and treatment, as follows:-

1. If the temperament of heart is changed because of "cold", signs and symptoms due to cold will occur. In the treatment of such a patient, musk should be used. Hot oil should be applied to the body. Hot bath and hot enema should be given.

2. If the temperament of heart is changed because of "moist", then the patient will have fever. He should be sent to take a course of hot vapour baths in Hummum 'Astemqiqoon' should be given to drink. Heavy diet should be avoided.

3. If the cause of "distemperament" of the heart is "dryness", meat of small birds and chicken will be useful for the patient. Milk of sheep should be given. Gingili oil should be applied to the body. Coitus and sleeplessness should be avoided.

4. If there is swelling in the body of the heart, palpitation occurs. For its treatment, blood letting should be carried. 'Debeedul Misk', 'Badrinjboya' and compound medicine of 'Nar-misk' should be given.

5. If the "distemperament" of heart is due to the extraordinary heat, blood-letting, of 'Akhel' should be carried out.

6. In the weakness of heart, the compound medicine of 'Kehruba', 'Busud', 'Lulu' and 'Ferenjmushk', is very useful.

Apart from heart diseases, Ali bin Rabban-al-Tabari, has discussed about cough, Asthma, Pneumonia, Haemoptysis, Pleurisy and Phthisis. A short account of some of them is given below:-

Cough.—If the cause of cough is "cold", daily, 2 spoonful of honey should be given and ointment of 'Nergis' or 'Sosen' should be applied to the chest. If the cause is "wetness", 'Mestegi and Aneesoon' should be

used. If the cause of cough is "dryness", then the decoction of 'Sepistan' and 'Bizr-a-Ketan' should be used. Oil of vinegar should be applied to the chest.

Haemoptysis.—External Causes: Calamity, great noise, lifting of heavy weight, fear of a fatal enemy and jumping.

Internal Causes: Great cold, congestion of blood vessels and the rupture of blood vessels.

Treatment:- Juice of 'Lihyatu' t-tees', Saffron, Opium, should be ground with the juice of Bizrayqetoon and Pomegranate and given to the patient.

Pneumonia.—Discussing about Pneumonia, Ali bin Rabban-al-Tabari, has mentioned something about pus coming out along with cough. He says:--

(1) if pus is formed in Trachea, the patient will feel ache in it and pus will come out of the mouth with cough.

(2) if the pus is formed in the lung, the quantity of it will be greater and will come out with the cough continuously.

Treatment: 'Bizr-a-ketan' or 'Senober' or 'Airsar' or the milk of camel and cow should be given to the patient. If the swelling of the lung has given rise to cough and fever, 'Qiar-shember' should be used. Ointment of wax prepared in rose-oil is also useful.

(ii) **RHAZES (died in 910 A.D.)**

In his fourth volume of al-Hawi, Rhazes, has spoken about *Asthma*: Causes: (1) Congestion of the surrounding parts of the lungs by humours. (2) Pus or (3) Blood or (4) Phlegm (5) Swelling in the lung. (6) Swelling in the Trachea. (7) Ulcer.

Signs and symptoms: (1) Constricted and slow respiration. (2) If the cause of Asthma is the congestion of pus, then Pleurisy will occur first. (3) If it is blood, haemoptysis will occur first. (4) Cough. (5) If the cause of Asthma is ulcer, the chest-ache will be caused by percussion.

Treatment

1. Pills of 'Sekbeenuj', 'Mur', 'Aus' and castoreum should be given to the patient of Asthma with warm water.

2. Pills of 'Sekbeenuj', seeds of 'Anjera' pepper, ground with the decoction of fig and honey should be given daily for some days.

Haemoptysis.—Discussing about Haemoptysis, Rhazes, has mentioned that this condition occurs in Phthisis and sometimes in Pleurisy and in rare cases it occurs in Pneumonia also. Reason for this, (he mentions), is the extraordinary heat in the concerned organs of the body.

Pneumonia.—Under the chest diseases, Rhazes has mentioned about Pneumonia, which he named, 'Zat-ur-Ria'!

Definition of Pneumonia:—Hot swelling of the lung.

Signs and symptoms: (1) Obstructed breathing. (2) Cough. (3) Chest pain which spreads in the whole area of the chest. (4) Wavy pulse. (5) Often spits with different kinds of phlegm. (6) Hot breathing with large strokes. (7) Acute fever. (8) Cheeks, eyes, and eye-lids become red. (9) The blood vessels of the cheeks, eyes and eye-lids, become congested.

Treatment: He has mentioned a great number of simple and compound medicines to be used in the disease, based on the experience of different physicians of Greece and Arabia.

Mentioning Pleurisy, he has given differential diagnosis between Pneumonia and Pleurisy as follows:-

Pleurisy.

1. Pulse is hard, weak and continuous
2. Cheeks do not become red.
3. Respiration is deep

Pneumonia.

1. Pulse is lean and wavy.
2. Cheeks become red.
3. Respiration is very difficult.

Tuberculosis

Rhazes has also mentioned in his al-Hawi about Tuberculosis, as follows:-

"One suffering from a cavity in the lung, requires a medicine which is dry in its temperament. The following precautions and medicines should be used:

1. He should live in a dry country.
2. He should use dry food.

3. He should always use the following medicines which will make him live longer.

The medicine is a compound of 'Cinnamomum Zeylanicum', Indian Spikenard, Saffron, Sazej, Benzoinum, Myrrha, 'Izqer', Glycyrrhiza, Clitoria-Ternata and Opium.

If nasal catarrh is increased and it caused pain and insomnia, the quantity of Clitoria Ternata and Opium should be increased. If dryness is increased, Glycyrrhiza should be increased in the compound.

Rhazes has mentioned a number of medicines to be used in all the diseases mentioned above.

(iii) AVICENNA. (985-1046. A.D.)

In the first part of the third volume of his Canon, he has devoted three Meqalas - i.e., third, forth and fifth, to the chest diseases. He has given a detailed account about Cough, Asthma, Haemoptysis, Aches and Swelling about the chest, dry Pleurisy, Pleurisy with effusion, ulcers of the lung, Pneumonia, Empyema and Phthisis. The most simple and the cheapest medicine to be used in the first and second stage of Phthisis, he says, is 'Gulqend' (Rose soaked in sugar).

In the fifth chapter, he has mentioned all the principles and modes of treatment for the diseases mentioned above. Most of the treatments and the medicines are similar to the medicines described by Rhazes in his al-Hawi.

(iv) ABUL QASIM AZ - ZEHRABI. (died in 1106. A.D.)

In his book called 'Al - tasreef', he has added a chapter about Cauterization. In this section, the author has given two small chapters for the treatment of Cough, Asthma and Pneumonia, which come under chest diseases. The author mentions, 'If a man is suffering from chronic cough, and he is not suffering from Phthisis or fever, he should be cauterized just above both the clavicle bones and in the middle of the chest with a particular kind of Caution, of which he has given a fine diagram.

In another chapter, he mentions that the treatment of cauterization should be done to the patient suffering from cold in Trachea, and Asthma. In these diseases, the place for cauterization is near the throat and the last vertebrae of the cervical region. In this disease, a particular Caution should be used, of which he has given a diagram in his book.

(v) IBNUN NAFEES - Qurshi (1210 - 1288 A.D.)

Ibnun Nafees (Ala-ud-Din Abdul - Ala Ali bin Abi Hazam al - Qurshi al Damishqi) an Arab physician of the 13th century writes, in the

annotation on the chapters of Hippocrates, that consumption is to be treated by Charred crab; one masha should be given with the syrup of Keshkesa.

(vi) **ZIA MOHD. MUBARAK, (of 14th Century)**

A courtier of Mohammed Bin Tughlaq, wrote a medical manuscript called 'Mejmoo-a-Zia', in Telangana Region in the 14th century. He mentions in his book the treatment for T.B. taken from Indian physicians;

9. Yantra Rasa (Marma Rasa) or Amrath Rasa should be given to the patient for 40 days.
10. Agni Kumar Rasa is also very useful for the disease.

There are many other compounds in Unani medicine which are used when various complications occur in the course of the disease.

(vii) **HAKIM BEHWA KHAN (15th Century)**

A medical Book called '*Madenush Shifa Sikender Shahi*' by Hakeem Behwa Khan, the famous courtier of Sikender Shah of Lodi dynasty, was written in Delhi in the 2nd half of the 15th century. The learned physician has not only prescribed the Unani medicines under each disease, but added the Indian names of particular diseases and compound medicines, generally taken from Ayurvedic medical books of 'Retnager' and 'Chintamani'. Under the chest diseases, he gives the following account, with specific names.

Cough that is caused by Raj rogum (*Consumption*).

Treatment: Ointment of *Pipelyadi Khurut*, *Kelayradi*, *Khurut*, *Tho Penchimoladi Khurut* and *Asgendhadi Khurut*, should be applied to the patient.

Asthma: Indian physicians call it 'Swas'. It is divided into two categories. The first produces hiccough. The second does not result in hiccough. The first is sub-divided into five kinds. called *Meha Swas*, *Urdha Swas*, *Keheen Swas*, *Temek Swas* and *Jhudas Swas*.

Treatment: After writing a list of medicines he has mentioned the following Ayurvedic medicines to be used in this disease, namely, *Senkhali Chooren*, *Sitadi Chooren*, *Heinsadi Khurut*, *Kelhetadi Khurut*, *Nektadi Khurut*, *Derakhiadi Awsow*, *Bharengi Kur*, *Kulthekur* and *Suriya Vereth Res*.

Cough with Asthma: In this disease, it is mentioned that the following medicines should be used. *Semarek-kera Chooren* (Powder), *Kentakari Khurut* *Bansadi* (*Vasadi*) *Khurut*.

(viii) **HAKEEM MOHD. AKBAR ARZANI (the famous physician at the time of Aurangzeb)**

He mentions in his *Materia Medica*, called *Tibba-a-Akbari*, the following prescriptions for Tuberculosis.

1. Pills of Tebasheer or pills of Camphor should be given in the morning along with the juice of the seeds of Qurfa, Baid-amishk and the syrup of Nilofer.
2. Extract of 'Gilo' (Sett-a-gilo), 'Tebasheer' marking-nut and pepper should be grinded in equal weight and $\frac{1}{4}$ of a masha should be given with the soup of crabs.
3. At ten O'clock in the morning and five O'clock in the evening, three masha of 'Qemeer-a-Merwareed' should be given. In the mid-day, compound containing iron or gold should be given.

(ix) **HAKEEM MOHD. AZAM KHAN (another physician of the time of Aurangzeb)**

He gives the following prescriptions for Tuberculoses in his book of *materia medica* called '*Akseer-a-Azam*' :-

4. Milk of ass or woman should be given to the patient for three weeks.
5. Powder or soup of crabs also is very useful.
6. Pills of 'Kehruba' (Amber Succinum) should be used.



Medical Adventures and Memoirs of Manucci

"An Italian Quack Doctor in India in the Second Half of the Seventeenth Century"

BY

D. V. S. REDDY

Niccolas Manucci was born at Venice in 1639. He was in his teens when he reached Delhi in 1656, as one of the numerous youthful European adventurers, and entered the service of Prince Dara as an artilleryman. By his ready tongue and good looks, he gradually rose to be captain of artillery under that Prince. After the death of Dara, the Italian served as Captain in the army of Raja Jai Singh, a general of Aurangazeb and viceroy of the Deccan. Then, Manucci decided to change his profession. He first set up practice as a physician in Lahore. After some years, he became the first Physician to the Heir-Apparent to the Moghul Throne, Prince Shah Alam. He remained in the Moghul camp for about ten years but got tired of the wandering life. He yearned for a settled life and a happy home. He fled secretly once again and sought refuge in the then new English settlement at Fort St. George (the nucleus of the present city of Madras). Here, he was very much respected and sought after, both as an experienced physician and a seasoned diplomat. He died about the year 1717. Manucci's house and garden and Manucci's stones (a preparation put in the market by him, in imitation of the famous Goa stone) kept his memory green for nearly a century after his death.

MANUCCI'S EARLY YEARS IN INDIA

Manucci's knowledge of medical conditions would appear to have been very poor, at least so far as Indian conditions were concerned. He was very young. One of the earliest sights which puzzled him at Surat, soon after his landing in India, was the chewing habit of Indians: "almost everybody was spitting something red as blood." He imagined it must be due to some complaint of the country or that their teeth had become broken. An English lady, whom he questioned on the point answered his doubts and explained that this was not due to any disease but was the result of chewing betel-leaf.

A few more years of varied adventure in India perhaps helped him to gather some bits and tips of information useful as "home treatment." Though his acquaintance with medicine was slight, he had the self-confidence to prescribe for certain diseases, even while he was an artilleryman in the service of Rajah Jai Singh. When Manucci was marching in the company of the son of one of the petty Rajahs of Deccan, the young man was affected

by the heat of the sun, which inflamed his blood. Manucci advised bleeding as the best treatment. The young man however would not agree to be bled. Manucci's age and personality did not inspire confidence. He was yet to acquire a correct and impressive bedside manner and the great reputation which, in later years, made him so popular with Moghul aristocracy.

THE ARTILLERYMAN DECIDES TO PRACTICE MEDICINE

No single circumstance or influence can be held responsible for his somersault. Perhaps, it would not be far from the truth to say that a number of factors, environmental and accidental, continued to influence Manucci's inquisitive and plastic mind, slowly and imperceptibly at first, later driving him to take desperate steps to become a doctor. Manucci came from Italy, the Mecca of Medical students of the sixteenth and seventeenth centuries, and he was born in the same century and country that gave the world Malpighi and Morgagni. The very atmosphere of his childhood and boyhood must have aroused some curiosity in the revolutions and discoveries in the field of medicine. When he reached the Moghul Court, he found that European physicians and surgeons were not only in demand at the court and in the army but were also paid liberally and highly honoured, both by the nobles and the Royal family. The story of the French surgeon Bernard, who enjoyed the intimate friendship and patronage of Emperor Jehangir may have fired the imagination of the youthful adventurer, versed in languages and endowed with a persuasive tongue. Frequent contact and even close association with European physicians had also some share in intensifying his desire to be one of them. Goa, its Portuguese physicians and their prosperity, must have also exerted some influence.

MANUCCI MISTAKEN FOR A PHYSICIAN

The earliest medical event or adventure in the chain of events that culminated in the change of his profession, occurred in 1661-62, when an embassy from the Emperor of Balkh came to Delhi. A relation of the envoy fell ill. They mistook Manucci for a full-fledged physician and sought his aid. "And imagining that I was a physician, as they suppose all Europeans to be, they called me to their house. I knew a few secrets but I did not give myself out as a physician nor was I bold enough to teach myself medicine at the expense of other's lives." But Manucci loved adventure and went to see the patient and "found the patient in a dirty bed in a fetid sweat with the odour of very rotten cheese." Then, he acted the part of a doctor with great resourcefulness.

I ordered the urine to be shown and it too smelt the same. I felt his pulse but my thoughts were not given to the pulse but to finding something to seize on in the difficulty to effect a recovery. Nevertheless, I ascertained that he was in high fever and placing my hand upon his head, I found it

was burning hot like a pot on fire. To induce him to believe that I was a great physician, I asked for the patient's age and then for a time, assumed a pensive attitude as if I were seeking for the cause of the illness. Next, as is the fashion with doctors. I said some words making out the attack to be very grave. This was done in order not to lose my reputation and credit, if he should die".

By acting in this manner, the Italian won the admiration of the spectators who began to praise him as a great physician. He was invited to Balkh. During a visit to Agra, with the help of a Dutch Surgeon, he was able to cure the Governor of the city. Thus, little by little, he began to turn himself into a physician. After a short stay in Goa, where he himself fell sick and was treated, he proceeded to Lahore and established himself as a doctor in that city, where there were no European physicians. He took a house and advertised himself as a Ferangi doctor and the Providence blessed him. He cured the wife of the Qazi, a patient given up by Indian and Persian physicians, and this made him famous in Lahore. He was called by many sick persons from the ranks of nobility and royalty. He had to face some persecutions and risks to his own life. Many patients from distant places also came to Lahore to get treated by him. Having acquired sufficient capital, he became desirous of withdrawing from Moghul country and living once more among Christians. As the people would not allow him to leave Lahore, he left secretly at night.

* * *

**CLINICAL NOTES AND CASE REPORTS AND OTHER
SUBJECTS OF INTEREST TO MEDICINE**

He returned to Delhi where his arrival was noticed by several nobles the chief of whom was the Master of Ceremonies to Prince Shah Alam whose wife was very ill and given up by the other doctors. Manucci's own words describe how he entered the service of Shah Alam "My treatment of her renewed my reputation, which during my absence of a year had been somewhat diminished. But the Persian doctors in the household of Shah Alam did not approve of my continuing at court after having cured the said women, whose case they had given up. This caused me to decide on a return to Lahore, for, I saw that the court was not for me."

"With this intention I left secretly, but the princess, wife of Shah Alam, who had learnt of the benefit I had effected in the case of the wife of the Master of the Ceremonies, brought to mind the cases I had cured at Lahor when her parents were there. I had also treated her in secret for a small abscess she had in her ear. Accordingly she besought the prince one night to take me into his service. allotting to me noble's pay. Not to discontent the princess, whom he loved much, the prince fixed for me three hundred rupees a month, and gave me in addition the title of a

MANSABDAR—that is to say, of a noble. This was a singular favour, the Mahomedans not being accustomed to grant such honours to Christians; furthermore, such physicians and surgeons remain subordinate to and under the orders of the head physician. But I was a privileged person, for I agreed to serve on no other condition than that I must be left free, nor must anyone else give me orders. Thus I took service with Shah Alam, although my Christian enemies did all they knew to prevent the prince's accepting me. And thus, unwilling as I was to serve Aurangzeb, I was the servant of his son, beginning my service in the year one thousand six hundred and seventy-eight." (pp. pp. 230).

Prince Shah Alam came close to Goa and sent a letter to Manucci requesting the Italian to come back to Moghul service and another letter through the embassy to the Viceroy of Goa requesting the latter to send back to him, Hakim Niccolao, his old servant. When Manucci reached Shah Alam's camp his old colleagues welcomed him with affection. The prince was very happy and communicated the news to the princesses and the princes and to his mother. Manucci was then in a European costume and in a new get-up. The princess asked him what drugs he took to return to youth. The prince offered increased pay and ordered disbursement of the pay for the whole period of his absence from the court.

For the services rendered by Manucci as a diplomat in the negotiations between the Portuguese and prince Shah Alam, the Viceroy offered the Knighthood of Iago or a village yielding 1,000 ashrafi and under pressure from the Portuguese, Manucci accepted the Knighthood.

"Be it known to all beholding this patent, that having regard to the services done by Niculao Manuchy in our Indian dominions on various occasions arising in our service.....wherein the said Niculao Manuchy conducted himself with great fidelity and zeal in our service; from which we anticipate he will act in the same way from now henceforth.....Wherefore, I order that this patent now issued be made over to him, that it be carried out and observed in its entirety, as therein set forth, and that it be sealed with the seal bearing the Royal Arms of the Crown of Portugal. Our Lord the prince issues it through Francisco de Tavora, Count of Alvor, one of His Councillors of state, Viceroay and Captain-General of India, Executed by the Custodian Sousa Moreira in Goa the twenty and ninth of January of one thousand six hundred and eighty-four.

Ordered to be recorded.

The Secretary,
Luis Gonsalves Cota,
Count of Alvor." (P. 283)

But he did not wish to continue in the service of Shah Alam as he did not feel happy to live among Mohammadans and took some measures for flight. Manucci handed over 2,000 rupees given by Shah Alam to the prince's son. On hearing that Manucci has left, the prince ordered his officers to search for Manucci and bring him back to his court. This was done and the prince felt very happy and remonstrated with Manucci who explained.

"I replied that I fully admitted the love with which High Highness was pleased to favour me; but my expenses were heavy, nor did I deserve less pay than that given to the other physicians. Thus I could not continue to serve him. Besides this, his ministers and officials made me wait a very long time for the little His Highness gave. In this way, while in his service I was expending my patrimony without benefit and with nothing but distress." (P. 285).

Then Manucci indulges in one of his boastful speeches.

"Before putting faith in this speech of mine, it is necessary for the reader to know my temperament, and he should in addition know the wonderful cures, I had effected among the Mohammadans. Well might I talk thus, for I neither sought for, nor was I in need of, the prince's pay and thoroughly content should I have been had he grown angry and said "Be off with you." (P. 285)

He prayed to go to Goa and fetch things and bid farewell to his relations. On taking an oath in the name of Messiah that he would return to the Moghul camp, within a week, the prince granted leave.

At that time, there was a famine in Goa, for want of supplies especially, wheat. Manucci petitioned the prince to have a cargo of wheat and sailed on the same vessel. The Portuguese were very much pleased. After his return to Moghul camp the army was ordered to march through a mountain called Ramghat. At this time, there was a pestilence which raged in the army with such violence that within 7 days of its rise, every one died who was attacked *i.e.*, about one-third of the army.

"Of this disease there died every day 500 men; nor was the mortality confined to men only; it expended to horses, elephants and camels. This made the air pestilential, and it being a confined route, supplies also failed, and this was like encountering another enemy. For although, as I said, wheat was abundant, from this time there were no animals to carry it. Thus the soldiers had more than enough to undergo. Many of those whose horses died had no

money to buy others, nor was there any one in the camp ready to sell. They were thus forced to march on foot and many died of great heat and thirst they underwent." (P. 287)

Once again, Manucci took measures for flight from Moghul camp and went to Golconda.

"This went on for several days, until the day fixed for my escape arrived. I sent my books out of the camp by the hands of my spies, who moved about in safety. Then contending myself with carrying of my hoard of gold coins and my case of instruments, I left my tent mounted on a horse followed by a palanquin as if I were going out to take the air." (P. 289)

"He wrote me a passport for Golconda, and coming out again handed it to me, telling me privately to make all the haste I could. As this was all I was waiting for, I jumped on my horse at once, and travelled for three days until I arrived at Gulkandah. There I repaired to the house of a friend, Mansiur Francisco Guety, and he conducted me to the mansion of Xarif Elmukq (Sahrif-ul-mulk), brother-in-law of the Gulkundah King. He held several conversations with me; and the King's sister suffering from the palpitation of the heart, I was able to alleviate her complaint a great deal. In this way I began to be talked about in Gulkundah." This was towards the end of the year 1685. (P. 291).

While Manucci was treating the nephew of the Golconda King, the latter's army was defeated and Shah Alam advanced against Golconda. Manucci mounted a horse and flew till he reached Machilipatam evading seizure by 300 troops sent after him by Shah Alam. He then went to Narsapur where he considered himself secure and lived happily with the English and the Dutch. Shah Alam opened negotiations with Golconda and retired to some distance from Golconda. At the same time Shah Alam asked the King of Golconda to search for Manucci. The king sent horsemen with orders to Governors to bring Manucci back to Golconda to continue the treatment of his nephew. Manucci realised that there was no escape and returned to Golconda.

"Urgently, I begged him, as I had come under protection of his word, not to deliver me into the hands of Shah Alam. By this he was somewhat disconcerted and fixed my pay at 700 rupees a month. But I declared that I would not accept the pay, that I meant to serve him for nothing. Nevertheless, he sent 700 rupees to my abode, and while I was with him he ordered a set of robes to

be conferred on me. He gave a private order to post a hundred horsemen in the street where I was staying to prevent anyone interfering with me.

For the envoy of Shah Alam, called Momencan (Mumin Khan) sought an opening for carrying me off to the prince. In addition to the guard of horse-men, Abul, I Hasan gave me over in charge to his Diwan, who was responsible for my personal safety. I began the treatment of his nephew once more, and remained two months in Gulkundah, by which time the patient had recovered. But I was obliged to seek safety in a secret flight. For the ambassador of Shah Alam, when he was taking leave, once more tried to induce the king to make me over into his hands. He (the king) replied that if at his departure he carried me away with him, no one would come forward to defend me. For this purpose he ordered the withdrawal of the hundred horsemen placed as sentries to prevent interference with me.

This conversation was heard by one of the said ambassador's soldiers who years before had come under an obligation to me for treating him in an illness and he hurried to warn me of the ambassador's intentions. The information reached me when I was at cards, and suppressing my tribulation, I went on for a time with the game. I then went out and betook myself to the house of the Dutch envoy, who was then Lourenco Pit, and begged his assistance in this delicate situation. After that, I sent for the Father Vicar of Gulkandah, named Frey Franeiso, of the order of St. Augustin, and most urgently entreated him to see Rustam Rao and procure leave to remove to Machhliapatnam a brother of his, called Augustinho, who had fallen ill..." "...The arrangement succeeded perfectly, for the permit was obtained. I got into a palanquin and feigned to be unwell; and praise be to God; the spies never discovered me. Thus did I make my journey without the envoy of Shah Alam being aware of my departure. I went on until I arrived at Madrasta (Madras) or Fort St. George, which belongs to the English. (p. 296)

On arrival at Madras he went to Pondicherry to see Francis Martin who had returned from Surat. This gentleman advised Manucci not to return to Europe but to marry in India and suggested a lady of good English Catholic parents living in Madras. Her name was Senhora Ilizabet Ihardili (? Elizabeth Hartely), legitimate daughter of Mestre (Mr.) Christovac Ihardili (? Christopher Hartley), president of Machhliapatnam, and of Donna Agudda Pereyra, a Portuguese lady. At that time the lady Elizabeth Ihardili was the widow of Mr. Thomas Klark (Clarke), an English Catholic who was judge, and second at the station of Madras.

After consulting well known Christian Fathers and Missionaries at Madras who testified to the virtues of the said lady, he married her in 1686. "...In this way I was fixed to a residence in the said Fort St. George, where came many that knew me, or heard speak of me, in order to be treated. Among those who came was Rajah Champat, son of Champet, Bundelah, who, as stated in the First Part of my History, was sacrificed by Aurangzeb as a foundation for his victories, in reward for having found him a route in his combat with Dara." (P. 298).

Then Manucci writes of his practice in Madras and his attitude towards practice.

"...Experience was my great teacher, whereby I had acquired several secrets, in which, it may be, I shall allow the world to participate for I have no heir to whom to bequeath these treasures that preserve our bodily health. But among the others I may as well mention that I manufactured certain cordials regardless of expense, the same being wonderful in certain complaints, as many can testify. Yet it is only a short time ago that I began to distribute these cordials, for I have no wish to imitate those who, keener for other's gold than the health of their fellow-men, make up mixtures of various things and sell them as cordials. I did not begin to sell mine until experience had taught me that the purchasers would not be cheated ..." (P. 298-299).

Manucci gives a very interesting account of the repair of the noses by local surgeons around Bijapur country.

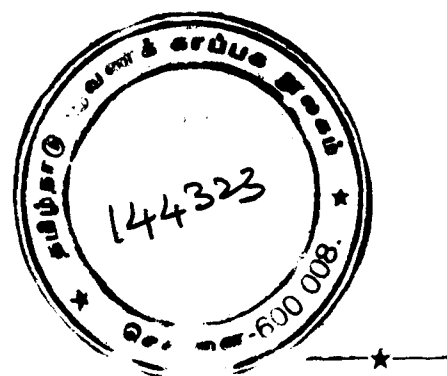
"... At the commencement of the war, when the men of Bijapur caught any unhappy persons belonging to the Moghuls who had gone out to cut grass or collect straw or do some other service, they did not kill but cut off their noses. Thus they came back into the camp all bleeding. The surgeons belonging to the country cut the skin of the forehead above the eyebrows, and made it fall down over the wounds on the nose. Then giving it a twist so that the live flesh might meet the other live surface, by healing applications they fashioned for them other imperfect noses. There is left above, between the eyebrows, a small whole, caused by the twist given to the skin to bring the two live surfaces together. In a short time, the wounds heal up, some obstacle being placed beneath to allow of respiration. I saw many persons with such noses, and they were not so dis-figured as they would have been without any nose at all, but they bore between their eyebrows the mark of the incision ..." (P. 301).

One of the strange cases recorded by Manucci relates to how Shahab-ud-din Khan a great general of Aurangzeb after reading a letter of the Emperor directing him to return immediately to the court became blind.

“... On reading the said letter, this famous general's eyes began to drop blood, whereby he became blind. Nor were the remedies of any avail, that were sent him by the self same Aurangzeb to be applied to his eyes; for he had found by this time that he wanted him, since Shivaji (*i.e.* the Mahrattahs) had deceived him in the matter of Parnalagarh, which he had reckoned on getting. His repentance was somewhat tardy, for already the general had become blind, remaining so to the end of his life, and he could, for want of sight, continue his deeds of valour and good judgement...”
(P. 135)

REFERENCES

1. *Storia do Mogor or Mogul India 1653-1708*, by Niccolao Manucci, Venetian, translated with introduction and notes by William Irvine, 4 Vols., London, John Murray, Date 1907-1908.
2. Reddy, D.V.S. Medical Adventures and Memoirs of Manucci, *Annals of Medical History*, III Series, Vol. III, pp. 195-202 (1941).



INDIAN JOURNAL OF THE HISTORY OF MEDICINE

AIM AND SCOPE

The Journal will be devoted primarily to the promotion of the study and research in the History of Medicine, including philosophical, sociological, cultural and humanistic background, as well as the changing influences and new trends. It will endeavour to bring to the notice of the cultured public and the profession, various Archaeological, Epigraphical evidences, traditional lore, extracts from ancient literature, religious or secular or scientific, list of manuscripts, records of documents, old books and works of art, useful for the study of history of Medicine in India. It will collect and publish clues and traces of the influence of ancient Indian Medicine on other lands and people of ancient and mediaeval times. It will attempt to critically examine the influence of European Renaissance and European Medicine on the advent and growth of modern medicine in India, with far-reaching repercussions on the Indigenous systems and on the health of India. It also aims to bring Medical Science into closer relation with Humanities.

TO THE CONTRIBUTORS

Contribution, review copies of books, Journals in exchange and correspondence relating to the publication of papers should be addressed to the Editor, D. V. Subba Reddy, Professor of History of Medicine, Department of History of Medicine, Nizambagh, Dewan Devdi, Hyderabad (India). Manuscripts for publication should be typewritten in double space and should not exceed 10-12 pages of typescript (i.e. 2500-3000 words.) References should be arranged alphabetically and typewritten in double space. Each reference should contain name (s) and initial (s) of author (s) and full title of the paper. Journal articles should also include name of journal, year, volume number and complete pagination in that order; with books, the city of origin, publisher, date and full pagination should be given.

REPRINTS

Contributors of articles will receive 25 reprints without covers, free of cost. Covers and additional reprints can be had on payment of extra-cost, if intimation is sent in advance to the Editor.

TO THE SUBSCRIBERS

The Journal is published twice a year (in June and December). The subscription in India is Rs. 8/- per year and outside India, foreign currency equivalent to Rs. 12/-. Subscriptions for the membership of the Association or the Journal (crossed cheques or postal orders or Book Coupons) should be endorsed in favour of "The Indian Association of the History of Medicine" and sent to the Treasurer, Dr. B. M. Sundaravadanam, 497, Poonamallee High Road, Madras-7 (India), to whom change of address or complaints of non-receipt of Journal may be reported.



Edited by Dr. D. V. Subba Reddy, and Published by Dr. C. R. R. Pillai,
for The Indian Association of the History of Medicine, 497, Poonamallee High Road, Madras-7
Printed by Mr. R. Ravaimanickam at Ravai & Sons (Ravai Press), 148, Big Street, Madras-5.