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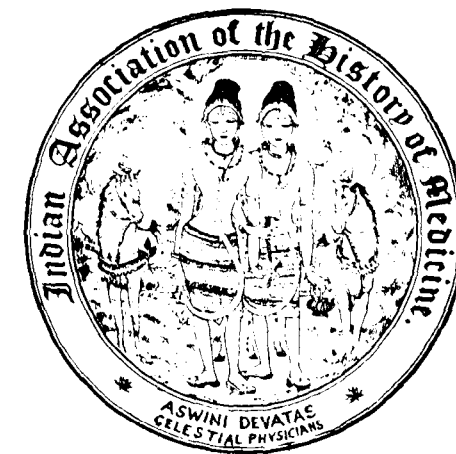
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Facets in the History of Indian Medicine

BY

K. A. NILAKANTA SASTRI,

*Substance of an address delivered on 26-2-1960 at the Annual Meeting of the
Association for the History of Medicine, Madras.*

This is a historian's approach to the history of Indian medicine and it lays no claim to be based on even the vaguest acquaintance with the science or art of medicine. It is one of the great achievements of the last century to have popularized a historical outlook on all subjects, and to have created a pretty strong desire in the minds of the educated to know in what ways and by what stages anything came to be what it is. That medicine has shared fully the effects of the impact of this historical outlook and that interest in medical history is becoming widespread is seen for instance from two articles which appeared in *The Illustrated Weekly of India* bearing dates 7 and 14 February 1960 from the pen of Dr. Rustom Jal Vakil. And there is already in existence some serious modern literature on the history of Indian medicine and a reference to some of this may furnish a good starting point.

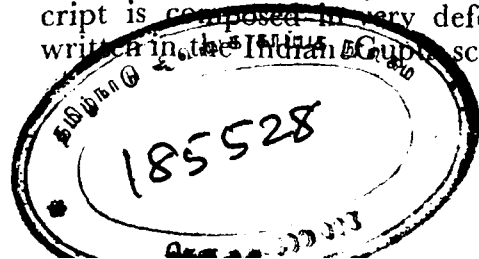
There is, first of all, the classic work of Julius Jolly on *Medicin* published at Strassburg in 1901 in the series known as the *Encyclopaedia of Indo-Aryan Research*. It has recently been translated from German into English and published in Western India.* It is a positive and descriptive analysis based on an intimate knowledge of the entire range of Indian medical literature 'an incredibly decent and clean piece of work', Zimmer calls it. Heinrich Zimmer himself delivered some lectures on *Hindu Medicine* in America, and a part of these lectures was published posthumously from an incomplete manuscript. This book is of a very different nature from Jolly's precise and factual work. It seeks to expound the flair of Hindu medicine,

* "Indian Medicine" by Dr. Julius Jolly, translated from German and supplemented with notes by C. G. Kashikar, M.A. (Tilak), Vaidika Sansodhana Mandala, Poona, with a foreword by Dr. J. Filliozat, Poona, 1951, published by C. G. Kashikar, M.A. (Tilak), 196/27 Sadashiv Peth, Poona-2.

it myths and allegories, its interrelation with philosophy and yoga; this is a field in which, according to Zimmer, *Charaka* excels *Susruta* and *Vagbhata*. We shall have occasion to revert to this presently. Lastly mention should be made of Jean Filliozat's compact sections numbered 1615-84 (Vol. II, pp. 138-66) in *L'Inde Classique* jointly produced with Prof. Louis Renou. Filliozat's text is in French and within its compass it constitutes one of the most penetrating accounts of ancient Indian medicine in theory and practice.

But when all is said, there are many gaps in our knowledge of the history of Indian medicine and we are still far from possessing a complete or continuous account of it. All students of ancient Indian culture are well aware of the fact that in the Indian milieu, the emergence of one great classic in any subject, generally meant the death of all prior works on the subjects. Thus, for instance, with the rise of *Panini's* great system of Sanskrit grammar embodied in the *Ashtadhyayi* (eight chapters), all earlier works were allowed to die out, though the references given by *Panini* himself to several predecessors of his by name, with indications of their views on particular points, show definitely that there had existed several schools of grammar earlier and much controversy over many of the issues involved. The same feature recurs in other sciences like the *Arthasastra*, *Vedanta* and so on. Doubtless, the absence of the printing press, the need for laborious copying of books to be able to preserve them, and the practice of memorising whole books and expounding them to successive generations of pupils that was practised in the schools, went far to account for this. We have also to take account of the signal indifference to history and chronology characteristic of the outlook of our ancestors, which has bereft us almost completely of the biographies of all our great poets and philosophers, and has reduced our literary history to a game of nine pins. The one exception to this general rule of cumulative oblivion is provided by the scrupulous care we have bestowed through the centuries on the conservation of the Veda, though even here, we seem to have suffered much indefinite loss. We can cull data from Vedic texts and to some extent visualize the state of medicine in that far off period, but then, there follows a big blank until we come by the classic texts of *Charaka* and *Susruta* in the early centuries of the Christian era. The interval is filled with myth and legend, and *Atreya* and *Agnivesa* are no more than mere names to us.

In historical times, there were in operation other causes such as the inclemencies of weather, war, migration and so on, that must have caused losses and broken continuity of growth. We have only to recall the discovery towards the end of the nineteenth century of the celebrated Central Asian manuscript that will be known by the name of Bower to realize the role of accident in determining the extent of our current knowledge. This manuscript is composed in very defective Sanskrit mixed with Prakritisms and written in the Gupta script of the fourth or fifth century, on birch



bark, cut into longish folios like the palm-leaves of Southern and Western India. It was deciphered and carefully edited by Hoernle in seven parts in the years 1893-7. It contains seven treatises of which three are purely medical texts. The first of these contains a panegyric on garlic (*lasuna*), followed by many recipes particularly for afflictions of the eye. The second is a more comprehensive work called *Navanitaka* (quintessence); in its fourteen chapters, it treats of powders, decoctions, oils, mixtures, enemata, elixirs, broths, aphrodisiacs, salves for the eye, hair-dyes, care of children and so on. The work contains a *Haritakikalpa*, mode of employing the myrobalan which is found in part in a fragment from the *Asvinsamhita* as Cordier has shown; the work also copies frequently from the classical *samhitas* of *Charaka* and *Susruta*. The third work contains 14 medical formulas in 72 verses. Yet, another work in the collection, the sixth, contains mantras against snake bite and may well be held to partake of a medical character. The language of this text has been held to be older than that of *Charaka* and *Susruta*, which brings it nearer the close of the late Vedic age than any other known medical text.

We must also not omit to mention the proliferation in relatively late historical times of many impostors and forgeries, particularly in the regional languages, which cause great confusion and form a serious obstacle in the way of any authentic history of the science and practice of medicine in India. We have only to think of the hundred and odd works passing under the name of Agattiyar and over twenty analogues under the name of *Tereyar*—all in Tamil of a very popular type, to realize the position. There are doubtless similar works in other languages, and these have not yet been subjected to any critical study.

We may now notice the chief landmarks in the history of Hindu medicine. The earliest monuments of ancient India are those of Mohenjodaro and Harappa, and these attest the existence in the third millennium B. C. of a civilization so advanced as to render it probable that medicine had already attained some development. Positive indications of such development are, however, not many. We have found deer horn which seems to have been preserved for its own use, because it is not accompanied by any other remains of the animal, and we know that the powder of deer-horn was used as medicine in India down to our own times. It may have been used likewise in Mohenjodaro. We have also found fish bones and *silajatu* which are common Indian drugs. The arrangements for bathing including the Great Bath, the system of privies and drains, evince a care for personal hygiene unexampled in any other urban civilization of antiquity; this, however, may or may not have had any direct connection with medical knowledge and practice.

Vedic texts yield data of interest both empirical and magical. They contain many allusions to the different parts of the body, the organs, to

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diseases and their treatment. A number of hymns, particularly in the Atharvaveda, are calculated to serve as curative charms, and the occasions and manner of their employment are set forth in a rather late work the *Kausikasutra* which, however, seems to conserve an earlier tradition. The Yajurveda and Atharva-veda contain many anatomical details including the number of bones, their names and so forth. Many Atharva hymns bear close relation to demonology and psychotherapy. By the side of this religious and magical background which postulates a close connection between sin and disease, both being breaches of the normal order, there are also traces of empirical medicine of a secular nature. A Rigvedic hymn (X. 97·8) mentions the rich fee of the physician, and this Zimmer is inclined to interpret as intended 'to exert a salutary psychological effect through its appeal to the "sacred egotism" of the ailing individual, his monetary instinct. It is not intended as a disturbing reminder of the bill to be footed, but is meant to act as an incentive appealing to the patient's instinct for co-operation and recovery' (op. cit. p. 28). The physiology of the Veda rests on the hypothesis of a close parallel between the macrocosm of the universe and the microcosm of the human body. At least one passage of the *Taittiriya-samhita* bears evidence of the disrespect in which doctors were held, but this may not have been universal.

When Alexander invaded the North-West of India to complete his conquest of the Persian empire of the Achaemenids, he was accompanied by a considerable number of scholarly companions, who, like Alexander himself, were keenly interested in the fundamentals of Indian culture and had a remarkable capacity to observe and record their observations. From their statements, we learn that the Indians had successful methods of dealing with snake bites and that they cultivated a fairly comprehensive elephant lore, which included their diseases and treatment. In fact, horses and elephants have been the constant preoccupations of Indian monarchs and medical writers and *asvasastra* and *gajasastra* have been among the best studied sections of *Ayurveda*. But much of all this knowledge seems to have been pragmatic and empirical, and apparently not based on any general theory or science of biology and medicine, and perhaps the same observation may be made of the rich materia medica preserved in many treatises and not yet critically investigated by modern research as it deserves.

Before proceeding further, we may, at this stage, devote some attention to the question of the relation between Indian medicine and Greek medicine. Among the medical texts that have survived to this day the Greek texts are definitely earlier than the Indian, but this is by no means decisive about the priority of the one system to the other. The origins of Indian medicine are, as we have seen, Vedic and probably pre-Vedic, and therefore pre-Greek. And it would seem that unlike in Geometry and Astronomy, where Indian development seems to have been delayed after a fair start and Indian authors had to borrow several Greek terms

and ideas before further development became possible, medical theory seems to have developed relatively more quickly and there are few Greek terms in Indian medical vocabulary of the early literature. On the other hand, the Greeks knew of Indian drugs by their Indian names and used them freely; examples are pepper, ginger, costus (*kustha*), *sarkara* and so on. There have been noticed some superficial similarities between the two systems, but they seem to be more accidental where the priority is not definitely with the Indian side. For instance the *tridosha* of *Ayurveda* does make one think of the four humours of the Greeks, but there is nothing in common between them, except the idea of categorizing the elementary components of normal health. On the other hand, Plato in his *Timeus* has a close parallel to the Hindu theory which is patently aberrant in Greek medicine. Another common idea is the role of the wind (*vayu* or *vata*) in Nature and in the human body. Lastly, the view that the disciplinary rules for medical students in India stems from the oath of Hippocrates cannot be accepted, because these rules of the Hindu medical schools are essentially Brahmanical in origin and can be easily traced to indigenous ideas and sources; again the idea of conformity to a discipline for the students of medicine is the only common factor, but that proves nothing.

The next landmark in the history of Indian medicine is furnished by the inscriptions of *Asoka*. They link up medicine, the care of the body, with religion, the care of the mind and soul. This is indeed an ancient association as the Buddha himself had formulated his Four Great Truths on the model of medical theory. The parallelism may be set forth thus:

Disease	...	Sorrow
Cause of Disease	...	Rise of Sorrow
Health	...	Cessation of Sorrow (Nirvana)
Treatment	...	Way to the cessation of sorrow, The Path.

In his ardent desire to preach the Dhamma to all the friendly neighbouring countries outside his own extensive empire, *Asoka* sent several missions charged with the duty of preaching the Dhamma and of establishing hospitals for the treatment of men and animals. And the importation and planting of herbs in medicinal gardens wherever these missions operated is specifically mentioned among the tasks to be performed by them.

Indian medical tradition, which reveals itself in its formative stages in the casual allusions in the *Vedas* and *Brahmanas*, appears in its completed formation in the oldest medical texts to which we have access, viz. the *Susruta Samhita* and the *Charaka Samhita*. They presuppose the existence of many earlier texts now lost to us. The two *Samhitas* are sufficiently different to rule out the supposition that one was an imitation of the other, and yet they manifest a remarkable concord in their general doctrines.

We must necessarily suppose that they are independent productions rooted in a common doctrinal tradition. As we may expect, there are legends galore about these works. Thus *Ṣṭayambhu Brahma* first created the *Ayurveda* (science of longevity), *Prajapati* received it and revealed it to the *Asvins* who passed it on to Indra, and Indra to *Divodasa* Dhanvantari. The *Susruta* itself claims to be the teaching of *Divodasa*, a king of *Kāśi*, imparted to a group of persons including *Susruta*, the son of *Visvamitra*. Such stories lead us nowhere and cloud the questions of authorship and chronology. The line of academic descent in the case of *Charaka* is rather different. Indra gave the science to *Bharadvaja*, we hear of a *Bharadvaja* Dhanvantari in the *Sankhayanagrhya sutra*; and *Bharadvaja* imparted it among others to Rishi *Atreya* Punarvasu who had six pupils viz. *Agnivesa*, *Bhela* or *Beda*, *Jatukarna*, *Parasara*, *Harita* and *Ksharapāni*, each one of whom made his own version of *Atreya's* teaching. The *Charkasamhita* is the latest redaction of *Atreya's* teaching by *Charaka*. But, from other sources we learn that *Charaka* was the physician of the *Kushana* emperor Kanishka in the first or second century A.D., and *Susruta* is known and cited in the Bower manuscripts, and these facts are more helpful in placing these works in their proper historical setting, than all the legends briefly summed up above. The *Susruta* repeats the names of diseases in the same terms as the Veda and calls medicine and surgery the two wings of *Ayurveda*. It lays much more stress on surgery than the *Charaka*. Over the hundred surgical instruments, sharp and blunt, were known and used. The *Charaka* is stronger on the philosophical background of medicine, says Zimmer, and stresses its interrelation with religious thought and the spiritual life and ideals. It seeks to coordinate the physician's and the layman's attention to physical well-being with the goals of faith, devotion and yoga practices, with the striving towards the beatific experience of the divine in human nature. This occult yogic side of medicine, it should be noted, tended to develop to extravagant lengths, creating an anatomy and physiology which has no apparent connection with known facts and finding its prolific expression in a number of obscure works in the popular languages and much more in the oral traditions and practices of itinerant ascetics. The works passing under the name of one or other of the eighteen *sittar* in Tamil contain fair specimens of this sort of mumbjo-jumbo. It is a matter that needs some attention from modern experts in medicine in its widest aspects, if, at least to establish the utter unreliability of the system which, one may suspect, is still claiming many credulous victims; if, on the other hand, there is anything of value in it, we should not be slow to press it into service.

Medical skill according to the classic Indian tradition, like all skills, depends on some secret of real mastership, not attained through text-books or class training, but imbibed through a kind of magical union through which master and pupil become one, an experience that is not open to everybody but only to the fit pupils beloved of the master. One recalls here the celebrated dictum of Manu (II 113) that a *Brahmavadin* had better die

with his lore, than impart it to one unworthy of it, which again only follows the earlier text of the *Chhandogya Brahmana*: 'Vidya indeed came to the *Brahmana* and said: I am thine, you please protect me by refusing to give me over to the undeserving and the vain, so that I may retain my efficiency', potency for the good of man.

Theoretically the *Ayurveda* is regarded as a subsidiary (*upanga*) of the Atharvaveda and is divided into eight sections (*ashtanga*) viz. (1) *Salya*, surgery, concerned with the extraction of foreign bodies, dead foetuses, the evacuation of purulent collections etc., by means of instruments, cautery and so on. (2) *Salakya* roughly corresponding to ophthalmology and laryngology (3) *Kayachikitsa*, therapeutics of the body as a whole or general medicine (4) *Bhutavidya*, the science of spirits or demons treating of possession (5) *Kaumarabhrtya* rearing of children or infant management (6) *Agadatantra* treating of antidotes and toxicology (7) *Rasayana*, lit 'the way of organic juices', treating of tonics and rejuvenation and (8) *Vajikarana*, 'invigoration', dealing with aphrodisiacal preparations. This division is well known to all medical treatises even though they do not follow it in terms, and the term *ashtanga* came to stand for medicine in general.

It is not necessary to pursue the later stages of medical practice or literature in detail here. But we may note one or two outstanding facts which must find a place, even in the most cursory survey. *Madhava*, a writer of the seventh century from Bengal, is rightly celebrated for his treatise on *Nidana*, Etiology, almost the only specialist treatise of its kind. Then we have *Vagbhata* who must have preceded *Madhava* who cites him; *Vagbhata* produced a comprehensive manual on the whole subject which has come down in two recensions (a) The *Ashtangasamgraha* in prose and verse, and (b) the much shorter *Ashtanga-hrdaya-samhita* entirely in verse. The two texts are divided almost exactly like the *Susruta* (with the exception of the *uttaratantra*) and very often the text of *Vagbhata* is only a new redaction in an easier style of the teachings of *Susruta*. *Vagbhata* has also used other writers particularly *Charaka* and he reproduces verses from the *Yogasataka*. The *Ashtangahrdaya* has been the most popular text book; it has been translated into Tibetan and often commented on, and a good part of its *Nidanasthana* is found incorporated in the *Garudapurana*.

This rather inadequate survey of a large subject may be concluded with a reference to the state of medical education and of hospitals in South India in the middle ages as reflected in the numerous Tamil inscriptions of the country, particularly of the period of the imperial Cholas (900-1200 A.D.). Most worthy of mention is the *Tirumukkudal* (Chingleput District) inscription of *Virarajendra*, A.D. 1067 (Ep. India xxi, pp. 220). It is certainly among the longest inscriptions of the world and contains a very detailed account of the entire budget of receipts and expenses in the local temple of *Maharishnu*, and the schedule of expenses included provision for

a college and a hospital. The students of the college were provided with food on the basis of $1\frac{1}{2}$ *nalas* of rice per diem and suitable side dishes; they also got mats for sleeping on, and oil for their heads on Saturdays (fifty-one Saturdays being counted for the year) and a night light. There were also two women servants who looked after the menial service required by the college and its pupils. Most interesting of all is the list of stock of medicines kept ready for use which, in a discussion with an Ayurvedic doctor, I discovered was a very good list for a hospital of the size contemplated. There are other inscriptions bearing on medical studies. A record of 1121 A.D. from *Tiruvaduturai*; for instance mentions among the persons regularly fed in a *matha* in that place students of medicine and grammar, learners of *Vagbhata's Ashtangahrdaya*, of the *Charakasamhita*, and of the *Rupavatara* (grammar). There are several other inscriptions giving full details of the food provided in charitable feeding houses which can be well made the basis of nutrition studies relating to the time and place in question.

It seems, at least to a layman, that a careful scrutiny of and research into the medical data to be culled from our old books and inscriptions will point the way to many useful advances on indigenous lines particularly in the spheres of *materia medica* and the psychic treatment of ailments.*



* A Search of our old literature and chronicles as well as of archaeological and epigraphical relics and reports for allusions to medicine, doctors, diseases, treatments, medical institutions, is being carried out and some results have already been published by the editor of this journal in numerous articles, in various Indian and foreign journals, during the last quarter of a century. It is desirable to bring them together in one volume at an early date—*Editor*.

“Airs, Waters and Places” of Charaka Samhita

BY

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The Corpus Hippocraticum contains a treatise entitled “Airs, Waters and Places”, generally accepted as a genuine work of Hippocrates. It is one of the most celebrated in the whole collection and relates to a subject of commanding interest and contains, as it is thought, the oldest exposition which we possess on the important question of the influence of environment on organism. Its general thesis has constantly been stated anew from age to age and even now commands the interest of sociologists. Hippocrates was born about 460 B.C. and died about 377 B.C. The period of his greatest activity falls about 400 B.C. His treatise may be taken to belong to the fifth century B.C. Charaka Samhita is a redaction of a treatise by Agnivesa, a disciple of Atreya, by Charaka. Atreya was an authentic historic figure like Hippocrates. He lived in the time of Buddha (563-483 B.C.). He was a Professor of medicine in the University of Taxila.¹ Agnivesa wrote the treatise in the life time of Atreya and so his treatise may be assigned to the sixth century B.C. So, it is interesting to discover a treatise in Charaka Samhita dealing with the same subject and expressing views very similar to those expressed in the Hippocratic treatise. This treatise has not so far attracted the attention, it merits, of writers of history of medicine. It is the aim of this article to bring the views of the ancient Indian medical writers, Charaka and Susruta, on the influence of environment on organism and contrast these views with those expressed in the Hippocratic treatise “Airs, Waters and Places”.

“Whoever wishes to investigate medicine properly must proceed as follows” Hippocratic writes. “First, he must consider what power each season of the year possesses. For the seasons are by no means alike: they differ widely both in themselves and in their changes. Next, he must take account of the winds, both warm and cold, especially those common everywhere, but also those peculiar to each locality. Similarly, the qualities of the Waters must be considered; just as these vary to the taste and in weight, so also each has a property quite peculiar to itself. Thus, when any one comes to a city which is strange to him, he should thoroughly examine its situation, how it lies with respect to the winds and to the sun’s rising; for a city exposed to the North has not the same qualities as one exposed to the South, nor one lying towards the rising sun the same as one turned towards its setting.

“These points are to be most carefully considered ; also what kind of water the people have ; whether they use waters that are marshy and soft ; or hard, coming from elevated and stony places ; or brackish and untractable. Account must also be taken of whether the soil is bare and unwatered, or tree-clad and well watered ; its situation, low-lying and close, or elevated and cold. Also what manner of life the people enjoy ; whether they are heavy drinkers and eaters and impatient of toil, or are, on the other hand, lovers of exercise and labour, given to eating but not to drinking.

“And it is from these considerations that each special case is to be studied. Thus, if one who is well acquainted with these points, preferably all, or at least with most of them, comes to a town with which he is unfamiliar, he will not fail to realise what are the diseases peculiar to the place, or the local forms assumed by general ailments ; hence he will not be at a loss how to treat these diseases and will commit no blunders, a thing likely to happen where one makes his forecast in each particular case without this previous knowledge. And, as the season and the year advance, he can tell the epidemic diseases that are going to attack the city, either in summer or winter, as also those diseases peculiar to each individual which are likely to occur from change of regimen. For knowing how the changes of the seasons and the risings and settings of the stars come about, he can predict what kind of year is going to follow. By these considerations and knowing the times in advance, he will have the fullest knowledge regarding each particular case that arises and will succeed best in the preservation of health ; in short, he will not fail to prosper greatly in his art.

“Now some may consider all this a matter of meteorology. Let them, however, change their point of view and they will come to realise that astronomy is of no small service to medicine, nay, of very great service, for, with the seasons men's diseases, as also their digestive organs, undergo change”.² The topics enumerated are treated in great detail later in the treatise.

The above, rather long, quotation from the Hippocratic treatise is necessary to appreciate the close similarity between the views of Indian medical writers and those of Hippocrates on this subject.

The treatise, referred to above, as found in Charaka Samhita, forms the third chapter of Vimana Sthana of that Samhita and is entitled “The Destruction of Towns and large Villages”. The discussion on this subject is introduced as follows : In the capital town of Kampila, in the region of Panchala, which teems with clusters of villages, Punarvasu Atreya, surrounded by disciples, towards the close of the month of sweats, while engaged in a walk in the woods on the banks of the Ganges, draws the

attention of his disciple Agnivesa to the altered and abnormal manifestations of the constellations, the planets, the moon, the sun, the atmosphere, the temperature and of the points of the compass and observes that these alterations very soon will effect the soil, which will, as a result, fail to bring forth herbs of proper qualities, juice, energy, assimilable virtue and potency and this will be sure to be followed by the outbreak of an epidemic. So, he cautions him to gather the necessary herbs before these alterations set in and the soil is impoverished. If the medicinal herbs are properly gathered, properly prepared and properly administered, then the prevention and management of epidemics should not be a difficult matter.

When questioned by Agnivesa “How can habitations of men, who differ in nature, food, body, strength, capacity of bearing particular things and practices, mind, and age, be simultaneously destroyed by one disease”, Atreya replies “Of men differing from one another in these particulars, there are other circumstances that are common ; these last being perverted, disease agreeing in point of time and symptoms, break out and become destructive of habitations. Verily, these are the circumstances that are common to human habitations, *viz.*, atmosphere, water, soil, and time (seasons) ”.

“Amongst them, when the atmosphere becomes as follows, it should be known as destructive of health ; contrary to what is proper to the season ; exceedingly moist, exceedingly changeful, exceedingly keen, exceedingly cold, warm or dry, constantly pouring vapours, fraught awful roars, blowing from different directions, blowing in whirls and fraught with disagreeable scent, or vapour, or sand or dust or smoke.

“When the water becomes exceedingly foul in scent, colour, taste and touch, full of impurities, deserted by aquatic fowl, almost dried up in its receptacles and disagreeable, it should be known as devoid of its proper virtues.

“The soil should be known as baneful when as regards its nature, it has become foul in colour, scent, taste, and touch ; full of impurities, afflicted by reptiles, and wild beasts, and goats and insects and flies and mice and owls and vultures and jackals and other animals as live in crematoria ; when its atmosphere has become smoky ; when agitated animals in crowds and birds in flocks are seen to run and fly over it in different directions ; when its cities, towns and villages have been abandoned or have become devoid of piety, truth, modesty, established usages, good conduct and other virtues ; when its receptacles of water are continually agitated ; when meteors and thunderbolts are constantly seen to fall and earth-quakes are frequent ; when the sun, the moon and the stars are frequently covered by masses of clouds which are dry or coppery or red or white ; etc.

“As regards time, that should be known as baneful which discloses symptoms contrary to those which properly belong to the season that is running or symptoms that are aggravated or attenuated in comparison thereto.

“They that are possessed of knowledge and experience say that these four, when existing with such conditions, become destructive of cities and towns and villages.

“Even when these four become invested with perverse virtues and thereby destructive of cities, towns and villages, if the inhabitants are treated with proper medicines, no cause of fear from disease need exist”. (C. S. 111.3).

Charaka enumerates, the climatic characteristics of heat and cold, as one of the three main causes of disease. When a particular season manifests its special characteristics of heat, cold or rains to an excessive degree or to a very deficient degree or in a very irregular or unnatural manner, then it is capable of producing diseases. (C. S. 1.11.42).

The year is divided into six seasons, each season consisting of two months, *viz.*, Sisira (winter), Vasanta (spring), Grishma (summer), Varsha (rainy), Sarat (early autumn) and Hemanta (autumn). The year is again divided, by the course of the sun and the moon, into two *ayanas*, named North and South, according as the sun's path lies to the north or south of the Equator. The three seasons commencing with the season of the dews (Sasira) and ending with the summer (Grishma) *viz.*, Sasira, Vasanta and Grishma, constitute the period when the sun travels in the region lying to the north of the equinoctical, *i.e.*, Utra Ayana. This is the period when the sun takes, *i.e.* sucks up the liquid portion of every earthly object. The three seasons commencing with the season of rains (Varsha) and ending with the autumn (Hemanta), *viz.*, Varsha, Sarat and Hemanta, constitute the period of the sun's southerly course, *i.e.* Dakshina Ayana. This is the period when the sun gives moisture to all earthly objects. During the period when the sun gives, the winds are not very dry; they also blow without being deprived of motion. The winds of the period when the sun takes, have opposite virtues. The moon during the period when the sun gives, appears with unabated vigour and filling the universe with cool rays, gladdens it every day. Hence this period is mild and agreeable. The period of taking is firey. These two periods, the sun and winds, and the moon also, as the learned instruct us, are subject to the influences of time, of their own respective natures and of track and become determining causes of time, season, moisture, *dosas* (humors), and strength of body.

There is another classification of the seasons into Varsha, Sarat, Hemanta, Vasanta, Grishma, and Pravrit, with reference to their influence on the increase, derangement and rectification of the different humors of the body.

In the rainy season, Varsha, annuals such as grain, wheat, etc. commence to grow and are weak in their essential properties; the water is muddy and the earth abounds with filthy matter and from decomposing materials. The sky is cloudy and the soil moist with water, the bodies of living things wet or moist and the digestive fire weakened by Vayu deranged by cold. From the use of unripe annuals and dirty water, under the seasonal influences above mentioned, a form of dyspepsia with acidity is apt to be produced and which causes an excess of Pitta (bile) in the system.

In the season called Sarat (early autumn) the sky clears up, the moisture of the earth dries up and the excess of Pitta (bile) in the system is heated and diffused through the body by sun's rays causes diseases which owe their origin to Pitta (bile).

In the cold season (Sisira) the annuals ripen and attain their full properties, the water becomes clear, the sun's rays are milder and the bodies of animals are effected by cold air and frost. Under these several influences, the use of the ripened annuals and of cold water brings about a form of dyspepsia, called *amājirna*, marked by imperfect digestion. From the use of oily, cooling, and heavy annuals of the season, there is accumulation of phlegm in the system.

In Vasanta (the spring) the bodies of animals are not so much affected by cold as in winter and the accumulated phlegm of the latter season diffused through the system under the influence of the sun's rays, produces those diseases which arise from deranged phlegm.

In summer (grishma) the annuals become very dry and tasteless, the water is light and the bodies of animals are dry from the heat of the sun. The use of such annuals and water, from their dryness, lightness, and tastelessness, tends to accumulate Vayu in the system.

In the season called Pravrit (early rainy season) the earth is soaked with water and the bodies of animals are moist. In this season the accumulated Vayu of the former season is diffused throughout the body by the cold air and rain and thus are produced the diseases which are caused by deranged Vayu.

When the seasons are regular in their course, the annuals and water are also wholesome and people using them gain longevity, strength and

virility. When cold, heat, wind and rains do not appear in proper time or are irregular in their course, the annuals and water become unwholesome and their use causes various diseases or even the breaking out of an epidemic pestilence. Sometimes the inhabitants of a country are affected with cough, asthma, vomiting, catarrh, headache, fever, etc., owing to the wind bringing exhalations from poisonous annuals and flowers, although there may be no derangement of the humors in those individuals at that time. Such epidemic affections sometimes occur from the peculiar influence of the planets and the stars.

It is necessary to take remedial measures against the accumulations of the humors in the second half of the rainy, cold, and hot seasons and their derangement in autumn, spring and the first half of the rainy season. Diseases caused by the deranged bile (pitta) are relieved in the cold weather, those caused by phlegm in summer and those caused by vayu in the rainy season. (C. S. I. 6; S. S. I. 6).

Ancient Indian medicine recognised three constitutions, *viz.*, Vatala, Pittala, and Sesmala (phlegmatic), and they held definite views with regard to the influence of the seasons on them. Men of the sleamala (phlegmatic) type are generally healthy, whereas, vatala and pittala persons are always of indifferent health. When there is a disease with the predominance of that dosa (humor) which is predominant in a man's constitution from his birth, the newly collected dosa (humor) produces morbidity on the lines on which the predominant dosa (humor) of his constitution is working; but this newly collected dosa (humor) does not augment the corresponding original dosa (humor). When a vatal person takes things which increase vata, his vata increases at once; but when he takes things which increase pitta or phlegm, these do not increase in him as readily as vata does. So in the case of a pittala person pitta increases rapidly when articles which increase Pitta are taken, and so with regard to Slesman or phlegm. The only sense in which a dosa (humor) is related to an constitutional (pakrti) dosa is, that a dosa (humor) goes strong in a system in which the corresponding dosa is constitutionally predominant and it grows weaker when the opposite is the case. (C. S. III. 6-15-17).

Hippocrates, in his treatment of the influence of seasons on health, makes the following points: If the seasons are normal in their course and characteristics with regard to winds, heat and cold, the year is likely to turn out very healthy. If the seasons are irregular and exhibit abnormal characteristics then the year will prove unhealthy. Sudden and abrupt changes are dangerous and are productive of disease. Adams draws special attention to the Hippocratic observation that in estimating the effects of the seasons, the humors accumulated in the preceding season should be taken into consideration.³ Hippocrates also draws attention to the affect of

the seasons on the various constitutions. Of course the seasons are quite different in Greece to that of India. But the general principles he lays down bear a close resemblance to what has been described above.

Hippocrates deals with the good and bad effects of the various kinds of water on health. With regards to stagnant waters, the water of the marshes or the ponds, he considers them bad for every purpose. Waters issuing from rocks are hard; waters issuing from the earth are warm; those issuing from earths where there is iron, copper, cold, sulphur, alun, bituman or soda, are hard and heating. The best waters are such as flow from elevated situations and earthy hills; they are sweet and clear. He specially favours waters whose streams break forth in the direction of the rising sun and especially summer rising; they are clear, fragrant and light. Rain waters are the lightest, sweetest, finest and brightest. Rain waters are the best but they need to be boiled in order to lose their impurities. Waters from snow and ice are all bad and most harmful for all purposes. With regard to spring waters, those whose sources face the risings of the sun are the very best; second come those between the summer risings and summer settings, *i.e.* roughly W.N.W. to E.N.E. and especially those nearer the rising; and thirdly those between the summer and winter risings; worst are those facing southward, and those between the winter risings and settings, *i.e.* roughly E.N.E. to E.S.E.; they are very bad with a south wind, better with a north.

Charaka and Susruta discuss the problems connected with waters in detail, in the Sutra Sthana of their samhitas. They discuss, their sources, qualities, effect on the humors and uses.

There are seven varieties of water which are obtained from the earth, *viz.*, well-water, river-water, lake-water, tank-water, water-fall-water, spring-water and small shallow well-water. Well-water is brackish and light, it increases the secretion of bile (pitta) and promotes digestive power. The water of small-wells is sweet and heating, it increases digestive power but it also removes phlegm. Water-fall water is light and agreeable and increases digestive power and diminishes Phlegm. Spring-water is sweet and controls bile (pitta) and causes no acidity. Tank-water is strengthening, astringent, sweet and light and it appeases thirst. The water from fields and meadows is sweet. It becomes heavy after digestion and increases the humors. The water of marshes causes cold or watering of the eyes, possesses many defects, is very unwholesome or objectionable for use.

River water is light, heating and attenuant. It increases digestive power and the humor Vayu. When such water is thick and sweetish, it is heavy and gives rise to cold and running of the eyes. The water of rivers, having rapid and clear streams, is light. The water of rivers with slow

streams and whose water is polluted with the growth of aquatic weeds, etc., is heavy. Rivers passing through sandy deserts generally have water with bitter and saline taste; sometimes such water is slightly astringent and sweetish; such water is light and strengthening.

The water of rivers which run towards the West, is light and, therefore, fit for drinking. Rivers which run towards the East possess heavy water, which is, therefore, unsuited for use. The water of rivers which run towards the South is neither light nor heavy. The water of rivers, that have their origin in the mountains to the North-West side of the peninsula called Sahya, give rise to skin diseases. The water of rivers rising in the Vindya mountains, causes skin diseases, and anaemias or jaundice. The water of rivers originating in the Western Ghats give rise to intestinal worms. The water of rivers rising in the Mahendra mountains, causes elephantiasis and ascites. The water of rivers originating from the mountains of perpetual snow, causes heart disease, swellings, headache, elephantiasis and goitre. The waters of rivers originating from the Paripatra, the central portion of the Vindya chain, cause diseases of menstruation. The water of rivers running towards the East or the West causes piles.

The cloud waters are of four kinds; viz., rain, mist, ice, and snow. Of these rain water is the best because it is the lightest. By nature the water that falls from the sky is possessed of six attributes, viz., cool, pure, beneficial to the body, clear without any filth, transparent and light. It depends for its properties upon the vessel or receptacle which holds it. Rain water should be collected in clean vessels of gold or silver or earth. It corrects the derangement of all the three humors; it is strengthening, prolongs life, improves memory and acts as a demulcent. It is exhilarating, cooling, relieves fever, burning sensation of the system and also acts as an antidote for poison.

In the rainy season, rain-water and spring water should be used for drinking purposes, these being very wholesome. In autumn all waters are pure or free from impurities and may be used for drinking purposes. In winter, lake and tank-water may be used. In spring and summer, water from water-falls and wells should be taken. In the first two months of the rainy season, water from small wells and all varieties of water, except fresh rain-water, may be used as drink.

The water which is covered with leaves, mire, etc., and which is not exposed to the light of the sun and of the moon or to the wind and which is imbued with smell, colour, and taste should be known as impure. Impure water should always be avoided. The sort of water which has been recommended for use in each season should also be adhered to. Impure water should be purified by being boiled over a fire or by being heated in the sun, or by dipping a heated iron into it or it may be purified by filtration

through sand and rough gravel and then allowed to cool or the water may be made fragrant by steeping in it certain flowers.” (S. S. 1.45; and C. S. 1.26; 8.219).

The second half of the treatise “Airs, Waters, Places” deals chiefly with the effect of climate on racial constitution and characteristics. Here Hippocrates makes the following points; where the changes of the season are most marked and most frequent, there will be found the greatest diversity in physique, in character and in constitution; as a rule, you will find the inhabitants’ physique and mode of life agreeing with the nature of the country. Where the region is fat, soft, and well watered, with its source of water very near the surface, so that it is warm in summer and cold in winter and where the seasons are well-tempered there the inhabitants are also fleshy, soft in constitution, showing little of their joints, intolerant of toil and generally base in spirit. Sluggishness and somnolency are marked in them; at the various arts they are dull, not subtle and acute. But where the country is bare, waterless and rough, ravaged by winter’s storms and scorched by the sun, there you will find the people hard, wiry, with supple joints, well braced and shaggy; such natures show active energy and wakefulness; in character and they are bold self-willed, tending to wildness rather than mildness of disposition; you will find them more acute and ingenious than others in arts and superior in warfare.

The division of land is threefold according to climatic conditions: anupa, moist, swampy; jāngala, dry; and sādharana, neither dry nor moist. Anupa is a watery land with ups and downs, rivers, plenty of rain, thick forest, mild and cooling winds and many high mountains and trees; its inhabitants have a soft; tender and fleshy body and suffer particularly from diseases of phlegm and Vata. Jāngala is an even land with detached and small thorny trees or bushes and little rainfall; it draws its water chiefly from wells, has hot and bad winds and has detached and scanty hills its inhabitants have a strong but thin body and suffer from diseases of vata and pitta. Sadharana is the land with a combination of both these qualities where cold, rain heat and wind are proportionate and the three basic humors are held in balance. Peoples, in moist and dry lands, are not so strong as those living in a sadharana country (S. S. 1.35) This description of Susruta of the various kinds of land and the effect of the environment on the physique, and character condition of top of the inhabitants clearly shows that he appreciated its effects.

Finally, Agnivesa raises the question “From what does the root arise of the perversity of air and the rest, characterised by which these destroy cities, towns and villages”. Atreya replies “the perversity, that arises of all these, has unrighteousness (adharma) for its root”. The people devoid of dharma (righteousness) are abandoned by the gods. As a result of this the

gods do not pour rain in due season or pour rain perversely. The air does not blow properly; the earth discovers perverse conditions; the water in rivers etc. dry up; medicinal herbs become perverted in their qualities. In cosequence of this, cities and towns and villages become destroyed through the use of these. In ancient times people were virtuous, of strong and stout physique and extremely long lived and an account of their virtuous ways of living, there was no climatic disturbances, no famines, no failure of crops, no, drought and no pollutions leading to epidemics, and diseases. But at the close of the Satya-yuga, through over-eating, some rich men became too fat and hence they became easily tired and hence became lazy and on account of laziness they acquired the storing habit and through that, the tendency to recieve things from others and through that, creed. Thus progressively dharma diminished in each succeeding age so also the earthly production of harvest, etc., and the bodies of living beings lost their vitality and their length of life diminished. Thus though adharma is the ultimate cause, it does not act directly, but through the changes brought about in the fertility of the soil, the conditions of living of the people, and by sapping their moral fibre. Thus dharma and adharma are regarded as the most important factors in determining of human conditions of life and world-conditions of environment. Freedom of will is almost wholly admitted by Atreya and where the fruits of previous actions are not of a confirmed character, they can be averted or improved by our efforts. That is why the doctor has to be vigilant. Therefore, the physician has to gather the necessary herbs, before the alterations in the climatic conditions set in and soil is impoverished. If the medicinal herbs are properly gathered properly prepared, and properly administered, then the prevention and management of epidemics should not be a difficult matter.

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A Hygienist at Pondichery in the Nineteenth Century*

BY

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Among the French doctors who worked at Pondichery in the middle of the last century, there was one, *Dr. Huillet*, who has left a detailed account of the living and hygienic conditions in this town and in the small area surrounding it. This work was published in 1861 by *Geruzet*, printer to the Government of Pondichery, with the title “Hygiène des blancs, des mixtres et des indiens à Pondichéry” (Hygiene of the Whites, the mixed (people) and the Indians at Pondichery) [Octavo, 270 pages]. This was preceded by another work entitled “Etude sur la Topographie le climat, la population, les maladies, la mortalité et l’hygiène de l’Établissement de Karikal” (Study of the Topography, climate, population, diseases, mortality and hygiene in the (French) Establishment at Karikal) written by another doctor *Dr. Godineau*.

Huillet's work is remarkably complete for his days. It is divided into two parts:

1. Aggressive or harmful influences.
2. Means of defence on the basis of private and public hygiene.

In the first part he studies, as the title itself shows, the existing conditions of life in Pondichery, showing how they can be unfavourable. He examines at first the general conditions of topography and climate taken together and notes objectively, the elements which are favourable for the health as well as the causes of diseases and death.

The notes on the climate are particularly interesting as they contain precise observations upon the temperature and atmospheric pressures over a period of 10 years and are compared with the data collected in the eighteenth century by the Astronomer *Le Gentil*. This scientist, who was a member of the Academy of Sciences of Paris, went to India, to observe the passage of Venus across the Solar Disc. He lived at Pondichery for a long time and here carried out studies on Indian Astronomy and made valuable astronomical and meteorological observations. (Voyage dans les mers de l’Inde fait par ordre du Roi à l’occasion du passage de Venus sur le disque du Soleil, Paris, 2 volumes in 4°, 1779.) [Voyage on the seas of India made upon the order of the King on the occasion of the passage of Venus across the Solar disc.]

* The article originally written in French by the author, was translated into English by Mr. A. D. Bhogle, M.Sc., Lecturer in Chemistry, Osmania University, Hyderabad, to whom the Editor is indebted for this help.

He studied the movements of winds in different seasons, the rainfall, influence of the sea, the suitability or otherwise of the layout of the streets and the buildings.

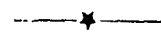
This is followed by a study of morbidity. There is a description of the diseases prevalent in different seasons, endemic or epidemic, or those appearing with no visible causes. Their evolution and prognosis is also described.

The second part deals with hygiene proper. The regimen of food, drinks, activities, general behaviour, conditions of sleep and seista (which is recommended when it is brief) are treated in great detail. Studies upon ancient hygiene placed great emphasis upon the mode of life to which they attributed the conservation of health, as well as freedom from various diseases, for which they did not know the infectious or biological causes. It is none the less true that the old observations on the effects of the regimen, habits, climatic conditions are of some interest. If many diseases cannot any more be attributed to such or such a way of life or to the wind from such or such direction, many observations regarding the coincidence that certain diseases appear with certain regimen, or behaviour or climate, attract attention. These circumstances are not always without reason and can be recognised upon study as really favouring some bodily disturbances.

Somatic conditions are studied at every stage in this book, which, as its title indicates, constantly takes into account the differences of reactions to environment and to the regimen depending upon whether the subjects are Europeans, Indians or half-breed.

But here the observations are very rudimentary. It should, therefore, be observed that even in modern hygiene, studies on this subject are not very advanced. That would require systematic determination of biological constants, such as somatic characteristics in the various homogeneous or half-breed human groups. These determinations are, at the moment, far from complete.

The interest of the book lies in the minute study in analysing the observed facts concerning the natural "milieu" and medical data, as well as in the numerous local data that are recorded, Tamil terms denoting natural products, or diseases, particular usages etc. Finally, the work is an useful account of the life of the country and specially, life at Pondichery about a century ago and of the state of medicine and researches of hygienists of this period.



"Kalyana Karaka," A Sanskrit Medical Treatise of the IX Century

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The European antiquarians and the Oriental scholars who studied and wrote on Indian Medical Literature have generally limited themselves to the great triad of ancient medicine, Charaka, Susrutha and Vagbhata, and their redactors and commentators. Even Indian scholars, with few honourable exceptions, have not given adequate attention to medical writers or medical literature of Dakshinapatha (South India.)

A manuscript of Kalyana Karaka was identified and first brought to the notice of the public and described nearly four decades ago, by Mr. Narasimha Chari, in the Mysore Archaeological Report for 1922 (pp. 23) in the following words:—

"Another manuscript of some interest is the medical work Kalyana karaka of Ugraditya, a Jaina author, who was a contemporary of the Rastrakuta king, Amoghavarsha I and of the Eastern Chalukya king, Kali Vishnuvardhana V. The work opens with the statement that the science of medicine is divided into two parts, namely prevention and cure, and gives at the end, a long discourse in Sanskrit prose on the uselessness of a flesh diet, said to have been delivered by the author at the court of Amoghavarsha, where many learned men and doctors had assembled."

It took another two decades before the treatise could be printed in 1940 at Sholapur, in the "Sakharam Nemchand Publications Series" as No. 129, under the editorship of Pandit Vardhamana Parshwanadha Shastri who has written a learned introduction in Hindi. In the preparation of this text for the press, four manuscripts are said to have been compared and studied: (1) Manuscript in the Mysore Government Library; (2) A manuscript in the library of the Sravana Belgola; (3) A manuscript in the Bombay Saraswati Bhavan and (4) A private manuscript belonging to a Pandit in Raichur District.

A translation of the work in Telugu, is appearing in instalments, in the Ayurvedic journal "Dhanvantari" from December 1956.

In his Supplementary Notes to his English translation of Jolly's original work in German, on Indian Medicine, C. G. Kashikar (1951) mentions the publication 'Kalyana Karaka'. Reference to this work by historians of literature or of medicine or detailed discussion of this treatise by oriental scholars in books or journals has not come to the notice of the present writer, who will be glad to hear of any such publications.

It is the purpose of this article to bring to the notice of the public all over the world, the comprehensive nature of the work and the special features of this medical treatise, written by a Jain scholar, in accordance with the Jaina teaching, in the 9th century, in Deccan (Southern India).

THE BOOK

Title of the Book.—“Kalyana Karaka” is a voluminous treatise on medicine in Sanskrit, in 25 chapters containing about 8,000 Slokas. It was compiled or revised and enlarged by Ugradityacharya, a Jain scholar of 9th century, who was probably a native of Deccan. The name itself is striking and significant and expresses the high aim and noble purposes of the Art and Science of Medicine. The title can be translated as “*that which promotes the welfare and prosperity of the world or humanity.*” It is specially given this title as other works on medicine, recommended, for the relief of the sick and suffering, use of substances or articles derived from other animals which have to be killed for the sake of benefiting human beings, while this book condemns any kind of cruelty to, or suffering inflicted on any living organism and recommends as substitutes, articles derived from plant and mineral kingdoms. Therefore, the book has the high aim of welfare and prosperity of the whole world, as against the aim of other books, which is, benefit of mankind at the cost of suffering and sacrifice of other types of animal life. Whether the author intended any pun on the word ‘Charaka’ or wanted to pay a compliment to a contemporary ruler or guardian of the minor king, Karka Suvarnavarsha, can only be a guess or speculation.

Special Importance of the Book.—This is also the first treatise which has been fortunately preserved for us in a fairly comprehensive and complete form, that embodies the Jaina tradition of the origin of medicine and names of the early writers on medicine and their compositions, which would have been otherwise lost in oblivion. It is of special interest to the Deccan, as the book was compiled from many sources, for the benefit of living beings, when the author was resident in Ramagiri (which he describes as a beautiful and sacred place), located in Vengi Desa (*i.e.* Andhra kingdom of late Hindu period).

THE AUTHOR

Age of the Author.—At the beginning of the book, the author of this treatise refers to himself as Ugradityacharya and adds that he was a disciple of Sri Nandi, who was honoured by Sri Vishnuraja Parameswara. It is

difficult to state definitely the historical identity of this king. It is, however, probable that the reference here is to Vishnuvardhana, a king of Vengi, in the later half of the 8th century or in the early part of 9th century. In the course of the book, Ugradityacharya mentions that there was a gathering of learned scholars and Ayurvedic pandits, convened at the court of the Rashtrakuta king, Nrupatunga (815 to 877 A. D.), to consider or discuss the desirability or the impropriety of using substances derived from the killing of animals in the treatment of the sick and the suffering, and that he, Ugradityacharya, argued eloquently against the usage of animal substances in medicine recommended by earlier medical writers and silenced his opponents, and proved that while the animal substances may be useful, they are not absolutely essential or indispensable and that they can be substituted by more efficient plant and mineral substances. Therefore, it is presumed that Ugradityacharya wrote this great work in accordance with his views and in consonance with the teaching of the Jaina religion, to broadcast to the world that animal substances need not and should not be employed for the treatment of human beings suffering from various diseases.

Place of Compilation.—The author also furnishes information that he wrote the book while he was resident in Ramagiri, which he describes as a beautiful and sacred place, praised by the people of Vengi and Trikalanga. It is not easy to locate definitely this Ramagiri as there are a number of places with the same name or similar names, scattered in Andhra Pradesh. I am informed that there is one Ramagiri in Anantapur and another Ramagiri, with some ancient ruins, in the present Karimnagar District in Telangana. Until further archaeological explorations decide the question, I am inclined to think that the Ramagiri referred to, by Ugradityacharya is perhaps the Ramathirtham Hill near Vijayanagaram. As Pusalkar¹ points out, Ramathirtham was regarded as a place of pilgrimage by Jains since very early days. A Kannada inscription of the reign of king Vimaladitya (about XI century) states that Trilokayogin Siddhantadeva Muni Acharya Desigana who was a guru of the king, paid respects to the hill. This centre of pilgrimage was frequently visited by people from Vengi and Trikalanga and was probably under the Vengi ruler and came under the dominion of the Rashtrakuta king, after the defeat and conquest of Vengi.

The King.—Amoghavarsha, who was known also as Nrupatunga, and assumed titles, Maharajashanda, Atisayadhawala, ruled for a long time over a big empire extending over the Deccan plateau, from the west coast to the Eastern Ghats and from Pennar in the south to the Vindhya in the north. He succeeded when he was a boy of 13 or 14 to the throne of the Rashtrakutas, after the death of his father Govinda, in 814 or 815 A. D. The old king, with great foresight, had arranged that the king's cousin Karaka Suvarna Varsha, Viceroy of Gujerat, should act as a Regent during the prince's

1. History and Culture of Indian People—Bharatiya Vidya Bhavan, Vol. IV, p. 290.

minority. It was Karaka who saved the boy-king and the kingdom from the enemies and reinstated his ward on the imperial throne, sometime about 821 A. D. After Amoghavarsha grew up and assumed full powers, he launched an attack on Vengi and defeated the king in 830 A. D. and the Rashtrakuta forces were in occupation of Vengi for about a dozen years or till 845, and the Rashtrakuta generals marched through Orissa upto Vanga. According to another authority, the crushing defeat of Vengi by Amoghavarsha was sometime about 860 A. D.²

He is said to have built a new capital Manyakheta (Malkhed in the Nizam's Dominions). He was not a warrior or a lover of war. He was a liberal patron of literature and his court was adorned by a number of famous Hindu and Jaina writers, such as *Jinasena*, Royal Preceptor and author of *Parsvabhyudaya* and '*Adipurana*'; (completed by Gunaschandra) *Mahavira-charya*, author of '*Ganitasarasanghra*'; *Sakatayana* author of '*Amoghavritu*.' But more interesting still is the fact that Amoghavarsha himself was a man of letters and is believed to be the author of '*Kavirajamarga*', the earliest work in Kanada language on poetics. In this work, he mentions several of the early writers like Samanthabhadra and Pujiyapada. He is also believed to be the author of *Prasnottaramala*.³ In religion, he was a liberal, extending patronage to all religions. He treated all creeds with impartiality and his own life was a striking synthesis of what was best in Hinduism and Jainism. It is a matter worthy of record that on one occasion, when his kingdom was afflicted with a severe epidemic, he offered to the Goddess Mahalakshmi, a finger of his own in the belief that such sacrifice would abate the epidemic. Towards the end of his life (from 860 A. D.) he used off and on, to retire from the work of administration, in order to devote himself as much as possible, to the religious worship. He died about 877, A.D. after a long reign. Amoghavarsha was, therefore, one of the greatest Emperors of Deccan, "whose name will endure as a ruler who established peace and order in his kingdom, encouraged art and literature and practiced the precepts he preached."⁴

JAINA TRADITION REGARDING THE ORIGIN AND TRANSMISSION OF KNOWLEDGE OF MEDICINE

The first Thirthankara, Rishabanadha, the fountain-head of all knowledge, a Sarvagna, was approached by Bharata and other Jaina sages, with a request to impart to them the knowledge of Science of Life. Then, the protector of those who seek refuge, instructed them in the Science of Health and Disease. On the basis of his lessons, these sages wrote different treatises on different parts of the science of Health and Medicine. According

2. Rashtrakutas and their Times by A. S. Altekar, Poona, 1934, pp. 71-79.—History and Culture of Indian People, Vol. IV, pp. 8-10.

3. Altekar,—p. 410-411.

4. History and Culture of Indian People, Vol. II, pp. 8-10.

to Jaina tradition, all revealed knowledge was divided into twelve divisions and in the 12th Division, there were fourteen sub-sections and one of these fourteen sub-sections was '*Praana Vaaya*', a word which means 'Science of Life', and is described as "a science which deals with body and its disorders and their treatment, according to eight divisions of Ayurveda, nature of the five fundamental principles (Pancha Bhutas) of matter, treatment of mental disorders and bites of rabid animals and the science of 'airs', regulation of breathing (Yoga) etc."

It is on the basis of this original work '*Praana Vaaya*' that subsequent Jain teachers and writers propagated Science of Health and Medicine among the people. This comprehensive treatise, '*Praana Vaaya*' was in *Ardha Maagadhi* language.

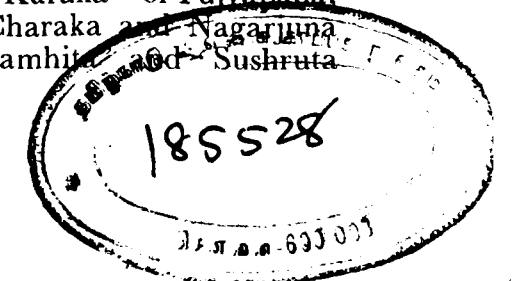
SOURCES AND AUTHORITIES CONSULTED BY THE AUTHOR

In the narration of the development of medicine, according to Jaina tradition, the author mentions with great respect, two illustrious names, Pujiyapada and Samanthabhadra. Pujiyapada Bhattaraka was not only a philosopher, poet and grammarian, but also a profound scholar of Ayurveda and is said to have written '*Kalyana Karaka*' in an endeavour to remove and relieve the disorders and diseases of the body. Samanthabhadra is said to have written a treatise comprising all the eight divisions of Ayurveda. In addition to these two illustrious sages of Jaina Cult, the author mentions a list of older and larger treatises or monographs, from which he extracted information for the preparation of his compilation.

- (1) Saalaakya Tantra (Diseases of Head) by Pujiyapada.
- (2) Salya Tantra (Surgery) by Paatrakesari Swamy.
- (3) Gadatantra (Toxicology) by Siddha Sena Acharya.
- (4) Kaaya Chikitsa (Treatment of bodily diseases) by Dasaradha Muni.
- (5) Kaumara Bhurutya (Pediatrics) by Meghanadhacharya.
- (6) Vaajeekarana Rasaayana (Tonics and Aphrodisiacs) by Simhanatha Muni.

It may be supposed that Ugradityacharya was only a redactor of the older work '*Kalyana Karaka*' or that he prepared a fresh compilation with the same famous name, but more comprehensive and in an enlarged form, taking fragments of the older book '*Kalyana Karaka*' of Pujiyapada, as the basis of his up-to-date compilation, just as Charaka and Nagarjuna are said to have done with regard to '*Agnivesa Samhita*' and '*Sushruta Samhita*'.

Handwritten notes: JL, 185528, N60 HM, N60-S-1.



PUJYAPADA

Devanandin or Jinendrabudhi, who is usually called by his honorific title, Pujiyapada, is famous as a grammarian, poet and philosopher. He was a Jaina scholar and sage, honoured by Royalty and people as Bhattaraka and Muni. There is some difference of opinion and uncertainty with regard to the century in which he lived, as there are conflicting statements by writers.

According to Winterniz, Pujiyapada lived between Vth and VII centuries. In the foot-note, Winterniz,⁵ refers to the views of other scholars like Bhandarkar, who places Pujiyapada about 678 A. D., while Lewis Rice places him in the middle of the VI century A. D. A Digambara Pattavalli gives 250 A. D. as the date of Pujiyapada.

According to Sathianathaier⁶ Durvinita (540-600), a Ganga king of Thalkhed, (himself a patron of learning and a scholar, in the later half of the 6th century,) is said to have been his pupil. Ghatage,⁷ writing on Jainism in South India, quotes Devasena, who tells that one Vajrnandi, a pupil of Pujiyapada, founded in 470 A. D. "Dravida Sangha" at Madurai. Sri K. R. Srinivasa Iyengar⁸ writes that Pujiyapada probably belonged to the VII century and that he was proficient alike in Sanskrit and Kannada. Others state that Pujiyapada lived in the VI century A. D. So, one can only give an approximate date between III century and VII century A. D. It is, however, believed that Pujiyapada lived before Samanthabhadra.

He is said to have written 'Istopadesha' (The Divine Instruction); 'Samadhi Sathaka' (A Hundred Verses on Absorption in Meditation) and 'Sarvardha Siddhi'. Pujiyapada also is said to have written or is believed to be the author of 'Jinandravyakarana' based on Panini and Katyayana.⁹

Ugradityacharya himself refers to Pujiyapada in the following words:—

"The great sage, respected and praised by the entire world, Pujiyapadamuni wrote the treatise Kalyana Karaka for abolishing the ills of the body....."

5. History of Indian Literature by Winterniz, Calcutta, 1933, Vol. II, p. 478.

6. History and Culture of Indian People, Vol. III, p. 269.

7. do do Vol. III, p. 409.

8. do do Vol. IV, p. 222.

9. do do Vol. III, p. 320.

Another Jaina medical writer, Gomatadeva, writes in his book:—

"I offer obeisance to the feet of the great Jaina grammarian, Jain philosopher and the author of the book 'Vaidyamrutam', the great sage Pujiyapadamuni."

It may also be stated that the author of "Rasaratna Samuchhaya" as well as "Chaamundaraaya", "Subhachandra" and "Parsva Panditha" have paid high encomiums to the learning and saintliness of 'Poojya Paada' who is said to have driven away ill-health and disease from the world by his teaching and his actions and by his great treatise. Unfortunately, Poojya Paada's original works "Kalyana Karaka" or even his Vaidyamrita or Salakyatantra are not available in their original and complete form.

But the historians of literature and religions do not mention Pujiyapada, as a writer on medicine or refer to his medical treatises.

SAMANTHABHADRA

According to Winterniz,¹⁰ Samanthabhadra lived in the later half of the VII century or the first half of the VIII century. In the foot-notes, Winterniz mentions the date suggested by other scholars like Vidyabhushanam, who gives the date as 658 A. D., while a Vamshavali states that he lived about 400 A. D. K. R. Srinivasa Iyengar¹¹ writes that Samanthabhadra seems to belong to the VI century.

Samanthabhadra's name is associated with the town of Kanchi, which was a great centre of learning.

It is well-known that he wrote 'Ratnakaranda', 'Swayambhustotra', 'Aptamimamsa' and 'Yuktayuktanusasana' and also "Siddhantarasayana Kalpa". But his interest in or his contributions to, Ayurveda are not generally known or mentioned.

Altekar in his book "Rashtrakutas and Their Times" writes on religious conditions, education and literature and refers to many distinguished scholars and writers in various branches of knowledge and to many learned works produced at the Rashtrakuta court, but makes no mention of any scholar, who wrote on medicine or of any medical treatise of that period.¹²

One would like to point out here, that even in the comprehensive and authoritative publication of the Bharatiya Vidya Bhavan, dealing with

10. Winterniz—Vol. II, pp. 580-581.

11. History and Culture of Indian People, Vol. IV, p. 222.

12. Altekar—p. 401-411.

History and Culture of the Indian People, in Vol. III (The Classical Age), Devasthali,¹³ who writes on Sanskrit Literature, has mentioned in Section II, (Medicine) only Vagbhatta, who is supposed to be a Buddhist. No mention has been made of any medical treatise in Sanskrit in the period under review, though Pujiyapada's Kalyana Karaka and Samanthabhadra's work on Medicine belong to this period.

In the next volume, Vol. IV, dealing with "The Age of Imperial Kanauj", which covers the period of Amogavarsha. Devasthali¹⁴ refers only to Ragvinischaya (Madhavanidana written by Madhavakara in the IXth century, Dhanwanthariya Nighantu belonging to VIII century and Rasaratnakara of Nagarjuna, who is placed in the VII or VIII century. Readers are left with the impression that there are no other writers on medicine and that no other medical treatises were composed by anybody in that period in South India.

A word may now be said about the medical care and medical relief during this period. Altekar writes that the doctor (physician) is known to be one of the court officers of the 'Gahadwalas' and adds that for obvious reasons, he could hardly have been absent from the Rashtrakuta court as well.

I have elsewhere discussed in detail the epigraphical evidence indicating the attention paid to medical relief by the Cholas in South India, in the X and XI centuries, and in Andhra Desa during the times of Kakatiyas (XIII century) and the Reddy kings of Kondavedu (XIV century). I will only add here, a piece of information which Altekar¹⁵ supplies:—

"From Arabian travellers, we learn that physicians were honoured equally with learned men and we find a brahmin physician among the Donees of an Agrahara village, by a Pallava king, in the VIII century."

The training of the learned physician, as contrasted with that of the Barber Surgeon, was given by a number of learned and pious brahmins, that were granted land or money in recognition of their erudition and public service in educating students without any stipulation for fees.

There were many temples, some Hindu and some Jain. Part of the charity that flowed into the temples was utilised to maintain schools and colleges and for affording relief to the poor by maintaining feeding houses

13. Devasthali—Vol. III, p. 320.

14. do —Vol. IV, p. 198.

15. Altekar—p. 326.

and Inns for the travellers. There were also a number of Mathas corresponding to the mediaeval monasteries which had been liberally endowed by kings and nobles and wealthy people. And in these Jaina Mathas, there was provision for not only teaching Jaina scriptures and other knowledge but also for the distribution of food and medicine.¹⁶ Apart from all this, there were many Agraharas or centres for teaching, corresponding to our present universities, where instruction was imparted in all branches of learning by learned brahmins, coming from various parts of India.

It is true that at that period, along with the science of Astronomy, Astrology was also highly popular. Jains also had taken to Astrology. There was belief in the evil influence of Saturn and other planets, over individual's health, as well as over health of the country and various rites were performed to avert the evil effects of the planets.¹⁷

There were also many other superstitions beliefs current in the society. The Gods were supposed to send diseases to afflict people and devotees threatened or begged Gods not to send diseases. Spells and enchantments against serpent bites were current.

Altekar writes "many women used to administer herbs and medicaments to their husbands which were supposed to be efficacious in keeping them under their control, but which very often ruined their health and hastened their death". Some persons took vows to offer their heads in case a son was born to them and some loyal subjects offered their heads if the king got a son. Old and weak persons committed suicide in holy places, either by drowning or burning themselves on auspicious days. These give an idea of the superstitions of the age.¹⁸

SPECIAL FEATURES OF THE BOOK

At the end of the book, composed of 24 chapters, the author had added an additional or new section or a supplement (Parishistadhyaya) entitled 'Hitahitadhyaya' dealing with what is good and what is bad.

Ugradityacharya refers, in this chapter, to the ancient advocates of Ahimsa and mentions among these, Pashupati, Brihraspati, Gautama, Agniveshia, Gargya, Bhargava, Bharadvaj, Palakapia, Vishala, Kausikaputra, Narada, Mandya, Sibi, Kasyapa, Vyagvij, Mungava, Shabiam, Prajapati, Aswin, Surendra, Dhanwanthri etc. He also alludes to the ancient and recent advocates of the doctrine of Himsa or killing of animal life or

16. Altekar—p. 314.

17. do p. 351.

18. Altekar—pp. 352-353.

sacrifice of animal life and mentions Vishvamitra, Gautama, Kashyapa-putra, among the more ancient ones and Pandya, Charaka, Bhikshu, Tapasa etc., among the later and more recent writers.

One of the special features of this book is that it completely eliminated the use of Wine, Meat etc., which have been included in the prescriptions and medicines by Charaka and Susrutha etc. It avoids the sacrifice of animal life, under the pretext of treatment. The book maintains and proves that these articles, though useful for treatment, are not absolutely essential and can be discarded, by using in their place, many more powerful herbs, as substitutes.

It is interesting to compare Chapter VIII of Lankavatara Sutra of Buddhists. Mahamathi begs of the Lord to explain to him what is good or bad in the practice of eating meat.¹⁹ Buddha forbids any kind of meat eating whether it be for any medicine or food and he accounts it to be tantamount to eating the flesh of a son.

In the Jain Cannon, the 11th Anga narrating legends on the retribution of good and evil deeds, mentions a story: Goyama Indabhuti, the oldest pupil of Mahavira sees various unhappy people and at his request, Mahavira explains by what actions in former birth the person has deserved such misfortune. A certain Umbaradatta was afflicted with all manner of horrible diseases. Why? Because, when he was a doctor in his previous existence, he had prescribed meat to a patient, thus causing the killing of numerous living creatures.²⁰

The book was written definitely after the time of Vagbhata, who is often described as a Buddhist. The language and the presentation and the subject matter, also seem to suggest that it is on similar lines as the eight sections or eight divisions of Ayurveda are treated in this book, *i.e.*, Kaya, Bala, Graha, Urdwanga, Shalya, Damshttra, Jara and Vrisha. Though the author refers to Agnivesa, Kasyapa, Charaka, he does not mention or refer to Susrutha, Nagarjuna. It may be that he was referring to Susrutha as Kausikaputra and to Vagbhata as Bhikshu.

In this treatise, many new modes and types of treatment with mercury and other metallic compounds are mentioned and some old methods are given in greater detail than in the earlier works. The new and noble ideas that emanate from the minds of the sages who had devoted themselves to study and contemplation and Yoga, have been incorporated in this work for the welfare of the world.

19. Winterniz, Vol. II, pp. 334-335.

20. Winterniz, Vol. II, pp. 452-453.

The book is written in a simple admirable literary style which compares favourably with the Kavyaas of the great poets of the Sanskrit literature. Though the author was a Jain teacher and gave greater prominence to Jaina traditions and customs, he did not completely ignore or criticise Vedic or Hindu traditions and customs. He respected and described Varnasrama Dharma, Yagna and other Samskaaraas, Shaanthi, Homa and other rituals as in Charaka Samhita for promotion of health and relief from diseases.

* * *

BRIEF SUMMARY OF CONTENTS

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|---------------|--|
| Chapter I. | Definition of Ayurvedic terminology—Traditions relating to transmission of Ayurvedic knowledge through successive teachers—Characteristics of longevity or otherwise. |
| Chapter II. | Science of Health—Tests of muscular strength—Physical features of surrounding country and soils—Enquiry into the structure of Matter—Origin and development of the body. |
| Chapter III. | Enumeration of bones, arteries, muscles and tendons—Temperaments and their outward manifestations—Qualities of good medicine—Signs and symptoms of excess or deficiency or imbalance of Vaata, Pittha and Kapha. |
| Chapter IV. | Selection of proper and auspicious time—Order to be observed in taking meals—Method of making foods palatable—Descriptions of properties of various solid substances used in medicine. |
| Chapter V. | Properties of medicinal liquids—Prepared foods and liquids—Varieties of milk—Urines. |
| Chapter VI. | Regimen for the day and for the night—Regimen common for all seasons—Measures for strengthening of sexual power—Measures for preserving and promoting physical vigour and longevity. |
| Chapter VII. | Enquiry into the nature of the spirit and soul—Consequences of bad actions in the previous births—Methods for avoiding them—Principles of construction of houses, beds and sleeping—Regimen of the patient—External and internal treatment—Qualities of good physician—Curable and incurable diseases. |
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| Chapter IX. | Diseases caused by Pittha—Vaginal discharges—Menorrhagia, Metrorrhagia—Diseases due to Vaata rakta—Diagnosis of fever—Signs and symptoms of fevers—Mode of fasting—Treatment of septic fevers—Treatment of diseases caused by demons and evil spirits—Diarrhoea. |
| Chapter X. | Diseases due to Kapha and their diagnosis. |

- Chapter XI. Serious diseases—Diagnosis and treatment of Polyuria—Diseases and treatment of Leprosy—Diagnosis and treatment of diseases of stomach—Treatment of Ascitis.
- Chapter XII. Diagnosis of difficult labor and its treatment—Care of the child—Treatment of diseases of children—Treatment of Piles.
- Chapter XIII. Gravel in the Urine—Urinary calculus—Determination of curable and incurable cases—Fistula-in-ano ; its diagnosis and treatment.
- Chapter XIV. Diagnosis and treatment of Chancre, warts and similar growths on sexual organs—Symptoms and treatment of Elephantoid leg Minor diseases and their relief.
- Chapter XV. Diseases of the head and medicines used in their treatment— Diseases of the Ear, Nose and their treatment—Diseases of the mouth and teeth and their treatment—Diseases of the eye ; diagnosis and treatment Ophthalmic surgery.
- Chapter XVI. Respiratory system—Cough, disorders of taste, vomiting and their treatment—Anorexia and its treatment—Varieties of hoarseness of voice.
- Chapter XVII. Diseases of the heart—Use of Enemata—Diseases due to worms and their treatment—Treatment of indigestion—Diseases of urine and their treatment—Signs and symptoms of diseases of the Vagina—Signs and symptoms of tumours and growths—Signs and symptoms and treatment of anaemia—Signs and symptoms of epilepsy, insanity, loss of consciousness and their treatment.
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- Chapter XIX. Toxicology—Signs and symptoms of different poisons (plant and animal) and their treatment.
- Chapter XX. Varieties of diet—Proper time to administer medicines—descriptions of the vital points (Marmasthanas).
- Chapter XXI. Description and varieties of alkalies (caustics)—Branding with hot iron cautery—Kinds of leaches.
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- Chapter XXIV. Mercury and mercurial compounds.
- Chapter XXV. Efficiency of various herbs—Avoidance of meat and intoxicating drinks in food and medicine—Indications of approaching death and signs of death.



A Note on
Mejmoo-a-Zia-e (Collection by Zia)
A DECCANI MEDICAL MANUSCRIPT OF THE 14th CENTURY

BY

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The Persian Medical Manuscript, called Mejmoo-a-Zia-e, present in the State Library, Hyderabad, was written during the time of Mohammed Bin Tughlaq, by Zia Mohammed Mubarak. This manuscript is in two volumes and has 46 chapters extending over 738 pages.

The First Page:—The author begins with the praise of God and then gives a description of climatic conditions of the land to East, West, North and South.

The Second Page:—Different seasons of the year and their respective climatic changes, are described briefly.

From the 12th line, of the second page, the author writes about himself and the reasons that prompted him to write the book :

“I, the most humble, Zia Mohammed Mesood Rasheed Zengi, Omer Ghaznevi, *alias* Mubarekbad, was ordered by Abul Mujahid, Sultan Mohammed Bin Tughlaq Shah, to go to the town of Tembool, then under the rule of Tughlaq himself. The people of the town called it Telang. I found it to be a big town with magnificent market.”

The Third Page: (The author continues the description of the Town).

“It is a charming province with abundance of necessities of life such as different kinds of grains and fruits. In this town, water tanks and brooks are running everywhere. But this year, some contagious diseases prevailed in the country. Consequently, most of the people I knew, died of several diseases. I myself was attacked by several diseases and suffered for a period of two years and four months. All the learned and experienced doctors of the day were called to treat me, and they did their best, but failed to cure me. Everyday my disease increased in severity threatening to cut short my life. At last, one night, I saw Khawja Shamshuddin (then dead) in my dream and I complained to him of my disease. He asked me to go through his medical book called “Mejmoo-a-Shamshi”, and find out a

particular medicine he named and use it. Then he told me to write a book in order that others may be benefited in the same manner. Accordingly, I took the medicine and was cured. Then, to compile a complete medical book, I set out to collect the following medical books:— (1) Cannon of Avicenna and (2) Materia Medica of Galen.

The Fourth Page:—(list of books continued).

- | | |
|---|-------------------------------------|
| (3) Kamalus Sena-aw | (12) Tibbe Geelani |
| (4) Tezkirai Quarzem Shahi | (13) Mejmoo-a-Mohammadi |
| (5) Mejmoo-a Mulki | (14) Sirre-Meknoon |
| (6) Shifaul Mulook | (15) Nuktetul Usool |
| (7) Meqasidul Abdan | (16) Kitab Sultan Senger Malik Shah |
| (8) Bustanul Ata | (17) Zoharetuz Zewaher |
| (9) Sehet-a-Ala-e | (18) Nuzhetul Gina |
| (10) Mekhzenush Shifa | (19) Menafe-un-nas |
| (11) Mejmoo-a-Shamsi (This book is a translation of the books of Indian Physicians) | |

“Out of these books, I collected those medicines which I thought fit for these countries. I did not make any alterations in the mode of preparation of the medicines or quantity to be taken.”

The Fifth Page:—

“Of course, some of the medicines were in Arabic language. I have translated them into current language of the country. And I have added as a separate chapter the medicines prescribed by Nagarjun and other Yogiswaras of India, I have named this book “Mejmoo-a-Zia-e.”

From the 13th line of the 5th page, up to the 10th line of the 14th page, he has enumerated the 40 chapters and their contents.

At the end of the 10th line of the 14th page, he has mentioned that the 41st chapter comprises the preparation of the oxides of Mercury, Gold, Silver and Copper etc., taken from the books of Nagarjun and other Yogiswaras. The chapter itself is written in 40 pages (from p. 643 to 683 of the 2nd volume of Mejmoo-a-Zia-e). There follows the names of remaining five chapters and the book ends with 46th Chapter.



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Medical Aid, Medical Men and Medical Writings of the Qutub Shahi Period*

BY

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The Qutub Shahi dynasty was in power in the Deccan for a period of about two centuries (1518 A.D. to 1687 A.D.) Out of eight monarchs, who ruled over Deccan, only the following three are worth mentioning in relation to Medicine.

- (i) Mohd. Quli Qutub Shah ^(1580-1612 A.D.)
988-1020 A.H.
- (ii) Sultan Mohd. Qutub Shah ^(1612-1626 A.D.)
1020-1035 A.H.
- (iii) Abdullah Qutub Shah ^(1626-1672 A.D.)
1035-1083 A.H.

Under their rule, the boundaries of the kingdom were extended. A new city, Hyderabad, was built which soon became the centre of arts and culture and lured many scholars, physicians, businessmen and foreign emissaries. A unique culture was born in which there was unprecedented boom in the field of science, literature and medicine.

This was more evident in the reign of Sultan Mohd. Quli Qutub Shah. In his reign was built the well planned city of Hyderabad which had such outstanding monuments as Charminar and Dar-u-Shifa. The 'Mahanama' a journal describes Dar-u-Shifa and public inns in the following words:

"Dar-u-Shifa (The Place of Cures) had accommodation for four thousand patients. Arrangements on an elaborate scale were made to provide their diet and many physicians were employed for their treatment.

There were fifty two public inns or rest houses, where, travellers from outside and far off places, *e.g.*, Turks and Targeeks could rest in comfort. Their food and other necessities of life were provided for. The bath attenders were under standing orders to attend to any visitor, however penniless, he might be. He was to be groomed by Government barbers and

* The English translation of the original article in Urdu was rendered by Dr. Mohajir, M.B.B.S., Tutor in Anatomy Gandhi Medical College, Hyderabad, Andhra Pradesh.

bathed without demanding any remuneration. Hence, everyday these attenders kept themselves in readiness to attend to the needs of any visiting stranger.”

Even to-day, Dar-u-Shifa stands a mute witness to the medical activities of the past.

It is really sad that many a physician of that age have fallen a prey to oblivion and their achievements in the field of medicine are lost to the world. The manuscripts that are now in existence are in a sad state of preservation, being moth-eaten and uncared for. Here, biographical sketches are given only of those physicians and scholars about whom there is some historical evidence and whose manuscripts are available.

PHYSICIANS OF QUTUB SHAHI PERIODS AND THEIR MEDICAL TREATISES

- | | | |
|--------------------------------|-----|--|
| 1. Mir Md. Momin | ... | <i>Ikthiyarath Qutub Shahi.</i> |
| | | <i>Journal of Weights and Measures</i>
(<i>Risale-Meqdariah</i>). |
| 2. Shamsuddin Ali Hussain | ... | <i>Tazkaratul Kahaleen.</i> |
| 3. Shamsuddin Bin Nooruddin | ... | <i>Zibdatal Hakim.</i> |
| 4. Abdullah Tabeeb | ... | <i>Zib-e-Fareed</i> (Unique Medicine) |
| 5. Hakeem Taqiuddin | ... | <i>Meezanul-Tabaah</i> Qutub Shahi. |
| 6. Hakeem-ul-Mulk Nizamuddin | ... | <i>Shajrai Danish.</i> |
| Ahmed Gilani | | |
| 7. Ismaeel Bin Ibrahim Tabrezi | ... | <i>Tazkeratul Hukuma.</i> |

The most distinguished and highly esteemed personality among these was Mir Momin. He occupied a very exalted position and wielded unlimited power in Qutub Shahi period. He was Peshwa, a post of great honour and power during two successive kings, namely Sultan Mohd. Quli Qutub Shah, and Sultan Mohd. Qutub Shah. Many places in Hyderabad, Districts and localities still bear his name, e.g., ‘Mir Ka Daira’, ‘Mominpet’ etc. Mir Sahib was a decendent of the spiritual leader of Istrabad, who commanded great respect and reverence from the kings and nobles of Persia. His father’s name was Syed Ali Sharfuddin Samaki, but in his own journal, Mir Sahib has transcribed his own name as Mohd. Momin bin Ali Hussaini. The same name is repeated in another of the books of Mir Sahib, named “Ikthiyarath e-Qutub Shahi.”

The exact date of birth of Mir Sahib is not known, but it can be fixed round about 960 A. H., because many years prior to 986 A.H., Shah Talimap had appointed him tutor to the prince. It becomes evident from the above mentioned fact that when he left Iran in 989 A.H. for Hyderabad, his age was not less than 30 years. It was only seven or eight months after the demise of Sultan Ibrahim Qutub Shah that Mir Sahib reached Golconda. Soon after his coronation, the 15 year old king, Sultan Mohd. Quli Qutub Shah had left his capital to support Nizam Shahs in their struggle against Adil Shahs and was engaged in war near Naldurg Fort. Courteous manners, unimpeachable character, high order of integrity, piety and wisdom far beyond his years, soon made Mir Sahib a very popular figure among his contemporaries. These qualities soon earned for him respect from Sultan Mohd. Quli Qutub Shah. This grew with each year of his stay at Golconda, and only five years after his arrival in Golconda, the king showed his confidence in him by appointing him the ‘Peshwa’ of his realm. The city of Hyderabad and in it Charminar, Dar-u-Shifa (Hospital) Diara and Royal Palace, owed their existence to the architectural genius of Mir Sahib.

The royal palace had a vast surrounding courtyard which was guarded by four arches, one on each side. On the arch, which led directly into the palace a Talisman was fixed to counteract and make impotent the evil designs of any person going into the Royal Presence. Hence, this arch, even to this day, is known as ‘Saher-re-Batil Ke Kaman’, though, the Talisman (enchanted stone) and the door which was made of sandal wood, inlaid with gold, is no more there. Apart from its other qualities as magic dispeller etc., the talisman soon acquired the reputation of curing sick persons. This belief had an adverse effect on the practice of local physicians. So, after the death of Mir Sahib, they plotted and removed the stone and had it thrown in a well in the nearby hamlet of Alwal. They could not get rid of it, for its whereabouts became known through water of that well which affected cure of any sick person, bathing in it. Ultimately, they removed the talisman to some secret ditch where it was lost for ever. This interesting episode appears in a monthly¹ of that period and no wonder, it might be correct, for records disclose many a tale of the spiritual prowess of Mir Sahib.²

Death:—Mir Sahib died in the late hours of Monday, the 2nd Jamad-ul-Awal 1034 A.H. and was buried in Daira-e-Mumin.

Works.—According to available records, the only book of medicine written by Mir Mohd. Momin is Resale Meqdariah (The Journal of Weights and Measures), but recent researches in this field have disclosed another book by the same author named ‘Ikthiyarath Qutub Shahi’, which he was commissioned to write by Sultan Quli Qutub Shah. The following is a detailed survey of these two treatises.

1. The monthly— Copy at Salar Jung Library: pp. 305-6, A.H.
2. Extract from “Mir Mohd. Momin” by Dr. Zore Qadri.

I. IKTHIYARATH QUTUB SHAHI

Ali Bin Hussain Ansari, *alias* Haji Zainul-allai, ($\frac{730 \text{ A.H.}}{1330 \text{ A.D.}}$ to $\frac{806 \text{ A.H.}}{1403 \text{ A.D.}}$), dedicating to his friend and patron, Baduil Jamal, wrote a book on Simple and Compound Drugs which was composed of two articles. The first contained information about simple drugs, their names in different languages and their alternatives. It also dealt with corrigents and their properties, both beneficent and harmful. The second article had relevant facts about compound drugs. This book attained great popularity and everlasting fame in Islamic world. Ikthiyarath Qutub Shahi contains explanatory notes, and criticism of the above mentioned book. Its author named his book as *Ikthiyarath Qutub Shahi in reverence* to his master and patron, Sultan Mohd. Quli Qutub Shah.

The Purpose and Style of Writing.—Sultan Mohd. Quli Qutub Shah was very much interested in the progress of arts and science. Frequently he used to hold discussions on medical and scientific problems with doctors, scholars and learned men who were engaged in scientific research. For authentic and correct information about simple and compound drugs, “Ikthiyarat-e-Badihi” was frequently referred to, in such discourses. The properties and actions of the drugs mentioned in this book, are extracts from famous and authentic books on medicine such as medical laws, encyclopaedia of Medicine, Ibn Baillai, and Therapeutic Index. But this book is not without its drawbacks. Mir Mohd. Momin was commissioned to refer to the original sources of the book and comment on its merits and shortcomings in co-operation with other contemporary experts. He had to clarify, correct any mistakes, committed by the author in understanding the original texts, from which the extracts were taken. In order to make things clear, the original text was given side by side, with the appendices and addendums under two definite heads, namely the original text and Addendum.

Only two copies of this book are preserved in Salar Jung Library and they are evaluated as priceless and rare. The copyist of the first one is Mohd. Momin (also known as Arabul Shirazi) and the date of the transcription is 1040 A. H. Its size is $10\frac{1}{2} \times 6\frac{1}{2}$ and contains 453 pages with 21 lines on each page. The script is in beautiful Nastaliq hand and its front page is gilded with gold and silver colours and its margins are embellished with floral designs in gold. Its other pages are decorated in a beautiful style, using different coloured inks to make them bright and colourful and highly attractive. Under the head of the contents of the Ikthiyarat-e-Qutub Shahi is given a list of the names of simple drugs and their synonyms in Arabic, Persian and Hindi languages. This list covers almost 32 pages of the book. Page 33 is without any inscription, but its margins are decorated in kaleidoscopic designs in gold and silver.

Beginning.—It begins with the following words: “Praise and thanks are due to that Great Being, the wonderful signs of whose wisdom are manifest in every atom of this Universe.

The End.—It ends as follows :—

“*Original Text.*—Neemah is a plant which is otherwise known as Sumbul in Shiraz. It is used for treatment and cure of wounds.

Addendum.—According to the original text.” The 1st and the last page of this book bear the seal of Hyder Khan and the date on one of them is 1167 A. H. Beneath the 1st Seal, are inscribed the following words with another seal of Hyder Khan affixed underneath them.

“On Seventh Rabeeh-ul-awal, 1183 A. H. this book is reviewed.”

Copyist.—The copyist of this manuscript was Mohd. Momin Arab bin Sharfuddin Hasan Shirazi. He was famous for his great skill in this art, during Qutub Shahi period. The second edition of Ikthiyarat-e-Qutub Shahi was written by a copyist named Nizama Ibn Abdullah Alsandi Al Shirazi. The size of the volume is $10\frac{3}{4} \times 6$ and it consists of 488 pages with 21 lines on each page. The date of transcription is 1039 A. H. The script is in beautiful Nastaliq and its pages are gilded and its margins are decorated with eye catching designs in gold and silver. The list of its contents spreads from page 455 to page 488. On page 454 the following words are transcribed.

“The book ‘Ikthiyart-e-Qutub Shahi’ was completed on 1st Ziquad 1039 A. H., in the capital city of Hyderabad in the reign of Sultan Abdullah Qutub Shah”.

On page 455, a cutting is pasted which bears the following line :

“This book was presented to Mir Mohd. Ali on 22nd Ramazan 1072 A. H. by Sultan Abdullah Qutub Shah.”

II. THE JOURNAL OF WEIGHTS AND MEASURES

(*Risal-e-Meqdariah*)

Fed up with the existing difference of opinion amongst experts in connection with the fixation of lawful weights for business and medical use, Sultan Mohd. Qutub Shah requested Mir Sahib to write an exhaustive

book which might be taken as authoritative. So at the behest of the king, Mir Sahib, after a painstaking research, wrote this unique treatise. Appreciating the keen interest shown by the monarch in providing people with a standard, governing weights and measures, Mir Sahib writes :—

“For the purpose of law and medicine, it is entirely necessary to know correct weights and measures. So, by the behest of Sultan Mohd. Qutub Shah, I am writing this treatise.”

The book is composed of a foreword with different chapters and closing notes.

The Foreword.—The foreward contains certain general remarks about the contents of the book and a list of books he has referred to. He says, “Whatever I have written, are extracts from authentic books on medicine, religious laws and medical encyclopaedias.”

Sources.—The information and facts about weights and measures, given in *Risal-e-Meqdariah* (Journal of Weights and Measures) are taken from authentic and authoritative books on medical laws, religious laws, medical encyclopaedias and medical text books. The names of some of the books referred to, are as follows :—

(i) Encyclopaedia of Medicine by.

(a) Sahah Jowhari.

(b) Qamoos Fairozabadi.

(ii) Religious Laws.

(iii) Medical (Canons), Laws and Text books :

(a) Shaik bin Ali Sina (Canons of Medicine).

(b) Syed Ismial Jerbani (Collections of Qaurzam Shahi).

(c) Badruddin Zijani (A Collection of Drugs) Jawamaul Adviah.

Apart from the above list of the sources of extracts, there are names of many other books found in the journal. It throws ample light on the superior knowledge of Mir Sahib and also gives an idea about the books of medicine on different subjects, that were considered authoritative in those days.

Mir Sahib has also given his own personal experiments and observations about these weights, apart from what he has taken from books. To make the book more useful to Sultan Qutub Shah and the people of Deccan, he has also mentioned the synonyms of these weights, used locally.

The End.—The closing chapter is sub-divided into three sections. The first of these is devoted to a detailed description of five standard stone weights which were collectively called ‘Punch Wazan’. This consists of five weights. They were equivalent to 1 drachms, 3 drachms, 9 drachms, 27 drachms and 60 drachms. The second section contains information about distances, e.g., miles, farsaq and Bareed and the third part gives general information about mensuration.

The popularity of the Journal of Weights and Measures.—This journal enjoyed great popularity among the people. It was frequently used for reference, as it was considered to be an authoritative book, on weights. At present, several copies of this book are in existence, but the most important of these is the original one, written by Mir Sahib, which is preserved in the Salar Jung Library. On its first page is the Seal of Sultan Mohd. Qutub Shah (Slave of Shah of Najjaf, Sultan Mohd. Qutub Shah). On the title page is the following line :

“Journal of Weights and Measures

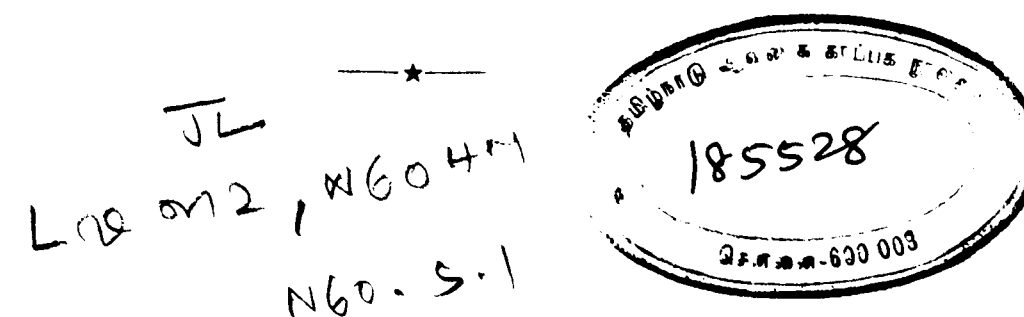
Author

Mir Mohd. Momin

(May the blessing of God be on him)

There, affixed beneath is the famous seal of Sultan Mohamad Qutub Shah.

(I have obtained this Seal of Solomon from God). This proves beyond doubt that it is the copy which Mir Sahib had prepared for Sultan Mohd. Qutub Shah. Bounded along with the above copy, there is another copy of the same book, which was later copied at Lahore. There is yet another copy of the journal in the same library which is in Nasqi script and its date of transcription is 1276 A. H. There is a fourth copy of this book completed by copyist Mohd. Rafeeh bin Ashanuddin Mohd. on 30th Ramazan 1053 A. H. The name of the copyist appears on the 2nd book which is bounded with journal in one volume, as both the books were copied by the same copyist at the same time. This manuscript is preserved in the Persian collections of Asafiah Library (No. 26).



CODE OF CONDUCT AND QUALITIES OF A GOOD PHYSICIAN

“ Therefore the Physician should not undertake treatment on account of lust, love or greed ; not even friendship, enmity or affection for a kinsman should be the reason for treatment ; the expectation of earning a reward or fame should not tempt a physician to give treatment. Only one urge and aim, kindness or mercy, namely Humanitarian feeling, should lead the physician to practice the art of healing. The Physician should never think that the practice of Medicine yields no benefits to him. Some times, he may get money ; some times, he may get what he desires ; occasionally, he may win fame or friendship ; even when he does not obtain any one of these, there is bound to be at least the benefit of practical experience. Will the earth be without human beings ? Can human beings live without drink, food and all sorts of activities ? And can such people be completely free from illhealth and diseases ? Therefore, the Physician should never dread unemployment or starvation.

The Physician who undertakes treatment should have the following qualities : He must be a speaker of truth, a man of courage endowed with patience, blessed with a lucky hand that has achieved numerous cures, one who has witnessed and also practised notable methods of treatment, one who does not get up-set under any adverse circumstances. These are the great and noble qualities that a physician entrusted with healing the sick should possess.

The Patient, the Physician, the Medicine and the Nurse are the four limbs of treatment. The Physician is more important than the other three ; He is the basis or prime cause for the rest. There is not much harm or danger if the patient loses faith in the wife or children but if the patient loses faith in the physician, there is no hope for the cure of the patient

Profound study and understanding of the sciences as well as practical skill in administering medicines, achieves success in treatment. If either of these, is lacking or absent, the life of the patient is in doubt or danger. So only a physician who is equally proficient in theory and practice and is wise and secures the permission of the King or State Authorities, should undertake treatment of the sick. When ignorant physician, without adequate knowledge of sciences, tempted by greed or lust begins to treat the sick, he will be sacrificing the lives of people and becomes liable for punishment by the ruler or Government. Hence, the physician should be careful to avoid such predicaments, leading to punishments.

Reference : KALYANI KARAKA, *Sholapur*, 7th Section, ‘ Qualities of a good Physician ’, Pages 113 to 118.

[Translated into English by D. V. Subba Reddy].

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