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# THE STATE AND INDIGENOUS MEDICINE : SOME EXPLORATIONS ON THE INTERACTION BETWEEN AYURVEDA AND THE INDIAN STATE

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## SUPERVISOR'S CERTIFICATE

Certified that the dissertation entitled "The State and Indigenous Medicine: Some Explorations on the Interaction between Ayurveda and the Indian State", submitted by Miss Poonam Bala, is in partial fulfilment of six credits for the degree of Master of Philosophy of this University. This dissertation has not been submitted for any degree of this University or to any other University, and is her own work.

I recommend that this dissertation be placed before the examiners for evaluation.

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# INTRODUCTION

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## INTRODUCTION

"Prudens quaestaie dimidium scientiae", so goes a Latin saying. It simply means that to ask the right question already gives you half the knowledge. In the pages to follow of this dissertation we have endeavoured to ask the right questions, and we hope that these questions at least are pertinent if not the answers.

Even after over thirty years of Independence in India, Ayurveda has failed to regenerate itself as a viable medical science, inspite of the powerful (though sometimes a little bigoted) support it received from the State and from interested and influential patrons. Several reasons have often been forwarded for the stagnation of Ayurveda but the most prominent of them focus on the neglect, and indeed the discrimination, that Ayurveda suffered under Mughal[1] and then under British rule.[2]

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1. N.H. Keswani, "Medical Heritage of India" in N.H. Keswani (ed.), The Science of Medicine and Physiological Concepts in Ancient and Medieval India, 1974, New Delhi, S.K. Manchanda, p.25. See also C. Leslie, "The Ambiguities of Medical Revivalism in Modern India" in C. Leslie (ed.), Asian Medical Systems: A Comparative Study, 1976, California, University of California Press, p.362.

2. D. Banerji, "Medical Technology and the People of India" (A paper prepared for the National Seminar on Social Perspectives of Development of Science and Technology in India, Sponsored by the Indian Academy of Social Sciences held at Kanpur), 1981, p.5. See also D. Banerji, "Place of the Indigenous and Western Systems of Medicine in the Health Service System of India", International Journal of Health Services, 1979, pp.511-519; p.515. See also O.P. Jaggi, Medicine in Medieval India, 1977, Delhi, Atma Ram, p.223. See also B. Gupta, "Indigenous Medicine in Nineteenth and Twentieth-Century Bengal" in C. Leslie (ed.), op.cit. p.370. See also R.C. Majumdar, "Medicine" in D.M. Bose (ed.), A Concise History of Science in India, New Delhi, Indian National Science Academy, p.262.

These reasons, prima facie, are very persuasive and considerable scholarship and argumentation butteress them. And yet we were not completely satisfied. The primary aim of this dissertation is to take another look at the relationship between the State and indigenous medicine (Ayurveda, largely), and in this process be able to say something about the dynamics of science and society. Debiprasad Chattopadhyaya's recent work on Science and Society in Ancient India[3] opened up a vista which had not provoked us earlier. We are now told by him that all was not well in ancient India either, as far as Ayurveda was concerned. The halcyon portrait of Ayurveda synergetically related with religion and politics in ancient India, as has been portrayed in many books of history and in countless lores, is false as Chattopadhyaya convincingly demonstrates. Where then did the degeneration of Ayurveda begin? What were the sources of its patronage? How did it react to other systems of medicine hitherto unencountered in its domain ?

Answers to these questions are not only for the sake of satisfying an idle curiosity. It will be found that statements referring to these aspects provide the form and give shape to all policy statements on Ayurveda and indigenous medicine, and, therefore, some preliminary knowledge on these areas must be had if one were to contemplate on the possible trajectories of Ayurveda today. Specifically, our purpose here is to examine the nature of State and political support or opposition to Ayurveda

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3. D.P. Chattopadhyaya, Science and Society in Ancient India, 1977, Calcutta, Research India Publications.

down history, and to relate this to the near unanimous pronouncement that Ayurveda lacks scientific elan today. We shall try to see the nature of State and political support of Ayurveda from ancient and medieval India right down to British and independent India to assess the validity of the argument that Ayurveda languished because of lack of State patronage.

As we are taking upon ourselves the task of searching for the relationship between State, politics and Ayurveda over a large historical convass, the minutiae of historical evidence will obviously be slurred over. We are aware that this might lead to some analytical solecisms, but we hope to keep them to the minimum. A historian would legitimately despair at such a project, but as our task is to place in relief contemporaneous statements on Ayurveda against a historical background, our historical pickings get naturally limited. This hopefully will exonerate us from the charge of being too lavish on limited resources.

What are the factors that we should take into account while studying the relationship between State and Ayurveda? As we are basically exploring the veracity of the argument that Ayurveda waned because of lack of State patronage, we shall limit our dissertation largely to a factual study of this dimension. While preparing this dissertation we found that historical and sociological evidence regarding State patronage to Ayurveda is rarely found in clear-cut terms and that one has to deduce a great deal circumstantially. As Henry Sigerist had once said, the history of science usually ignores the social dimension and

is usually written in terms of discoveries - who conducted which experiment, who identified what is now considered a discrete scientific variable? In Sigerist's words, "Great interest was being shown in 'firsts'."[4]

In order, therefore, to glean from historical records (rather unsatisfactory for our purpose), we have looked at State patronage in the following terms: (a) who were the famous Ayurvaids throughout history who were actually patronised by the ruling courts ? (b) What famous texts were written in the past, and were these works proscribed by the State ? (c) Is there evidence to demonstrate that by law or by edict, Ayurveda or Ayurvaids were persecuted by the State ? (d) If there existed any animosity towards Ayurvaids in history, and if it did, then where was the seat of such antagonism ? Admittedly, criteria (b) to (d) are negatively formulated, but they can be justified on the grounds that previous scholarship, which linked the decay of Ayurveda to lack of State support, by-passed the issues that these points raise.

The quality of opposition to any doctrine is diverse and springs from a variety of quarters. If one were to look for opposition or patronage alone, then, needless to say, one might get a lot of information. This is because there is hardly any institution in any society which does not meet with opposition from some quarter or another. Histories which detail ideological oppositions usually identify any evidence of such opposition as

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4. H. Sigerist, "The Social History of Medicine" in A.H. Katz and J.S. Felton (eds.), Health and the Community, 1965, Free Press, p.4.

having the sanction of the State. The most well known case is that of the persecution of Galileo. In popular books, serious drama, and in historical sketches, on the life of Galileo, it is often assumed that the State and the Catholic Church together condemned him. It is now known that the Florentine rulers and the Paduan aristocracy were disturbed by Galileo's persecution by the Catholic Church and tried to prevent it. This should also make us wary of another dimension as well. It is again carelessly surmised that attempts to place Ayurvedic practitioners below the priestly class necessarily meant that (i) Ayurveda as a body of codified knowledge was being presecuted or (ii) that all true scientific Ayurvaids must necessarily be anti-religious. Galileo till his last day was not an atheist nor was he against religion or the Church. Moreover, we have still to carefully examine, inspite of Chattopadhyaya's conclusion, whether the codified knowledge of Ayurveda was itself being suppressed.

It is primarily because of the many zones of uncertainty regarding analytical distinctions, and because of the nature of secondary material on the subject, that we are primarily eager to be able to only ask the right questions. In the second chapter, our principal concern is to see whether Ayurveda was in fact persecuted by the State, though religious orthodoxy attacked the physician-gods — the twin Asvins. Also, we should like to examine to what degree it was because of religious approval that Ayurveda became a closed doctrine. Here we will be forced to argue by comparisons and also <u>ad hominem</u>. In other words, without stating a contrary position we shall examine by analogues

and by argumentation, the validity of the thesis that Ayurveda became stagnant because of ideological and State opposition.

The third chapter, in like manner, will examine the situation in medieval India and the issues will be made more interesting because of the arrival of Persian or Unani medicine. The fourth and fifth chapters will then lead us further towards making a few tentative conclusions. In the fourth chapter we shall examine the relationship between indigenous medicine (mainly Ayurveda), the British colonial imperatives and western medicine. The added dimension in this chapter is to take into cognisance an overlordship which is primarily colonial in character and which has gone through an industrial and scientific revolution in its mother country. Attempts will be made now, because of the complications introduced, on the relationship between Ayurveda and the people —its clients —to see how far a body of practical knowledge derives support from its clientele. The clientele - Ayurveda relationship then looms large in our minds, suggesting provocative leads some of which have been mentioned, but none of which has been examined in depth. But, as we said earlier, we should only be happy if we have been able to ask the right questions. In the penultimate chapter, we shall study the nature of political and State patronage given to Ayurveda and indigenous systems of medicine by the nationalist movement and by the State in independent India.

The dissertation is based primarily on secondary sources though we have also delved into some primary sources when we were studying the British and the post-British period. We hope, through-

~~the dissertation~~, to be able to come to a minimal understanding on the career of Ayurveda, in order to set the stage for in-depth studies on the contemporary issues regarding science and society, specifically the potentialities of Ayurveda in modern India. We believe that it is necessary to bring out notions, views and ideological persuasions, which are often hidden and which surreptituously guide many studies and proposals on this very sensitive subject. Once we are able to take stock of the degree of veracity of many of the popular governing assumptions relating to this area, then only can a fresh study on the dynamics of Ayurvedic science in contemporary India be legitimately launched. Let us begin the first stage of our project with an examination of Ayurveda in ancient India.

# CHAPTER II

# THE AYURVEDIC SYSTEM OF MEDICINE: ITS ORIGIN AND ANTIQUITY

# CHAPTER II

## THE AYURVEDIC SYSTEM OF MEDICINE: ITS ORIGIN AND ANTIQUITY

Medical art or the art of restoring and preserving health has been in existence ever since the appearance of man on earth. ~~when man felt the necessity of assuaging the illness afflicting him.~~ Since ~~this repugnance to~~ dislike of pain is an innate characteristic of life, it may be said that medicine is as old as man himself and that it developed gradually with progress in other spheres of life.

Prior to the establishment of Ayurveda as a codified and acknowledged system of medicine, medical knowledge in India had developed to a considerable extent. This is also evident from the excavations at the two Indus Valley sites, namely, Harappa and Mohenjodaro. The entire town planning reflects a high level of sanitation and public hygiene which was not to be found elsewhere. Several therapeutic substances for the cure of ailments like rheumatism have been unearthed from the two sites.[1] We shall see how the science of medicine developed in the subsequent period.

### 1. Indian Medicine in the Vedic Period

The earliest documents of Indian medicine are found in the four Vedas, namely, Rgveda, Samaveda, Yajurveda and Atharvaveda. They represent the chief repositories of Aryan

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1. Sigerist, A History of Medicine, 1961, New York, Oxford University Press, vol. II, p. 142.

culture and medicine. As Sen puts it, "an account of the Vedic gods, foremost among whom are twin Asvins playing the role of physicians providing remedies, reflects the interest of the Rgveda in medicine".[2]

It is believed that medicine practised in the Vedic period was archaic since the aetiology of disease was ascribed to the action of the supernatural. Accordingly, it was assumed that the healing practices, as mentioned in the Vedic records, consisted only of imprecations against demons, enemies and of charms for expelling diseases.[3]

But Sigerist asserts, "it would be a mistake to assume that Indian medicine in the Vedic period was only magical and religious. It had empirical and rational elements too. Even in the Vedic samhitas, the purely religious books, we find a reflection of anatomical, physiological and pathological views which are neither magical nor religious and we hear of treatments which impress us as being rational."[4] This is also evidenced by the writings in Atharvaveda which mention two types of healing art

a) that which deals with reciting magical verses, and
b) that which involves the magical formulae as well as application of drugs.

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2. S.N. Sen, "A Survey of Source Materials" in Bose (ed.), op. cit., p.16.
3. Sigerist, op.cit., p. 161.
4. ibid., p. 162.

From the above account, one can have an idea of the existence of medical science in remote times. Perhaps, it was in the post-Vedic period that a distinct system of medicine called Ayurveda, came to be codified — thus marking the beginning of the scientific era of Hindu medicine.

## 2. Indian Medicine in the post-Vedic Period

Ayurveda, as the term connotes, is the science by the knowledge of which human life can be understood ('Ayu' meaning life and 'Veda' meaning knowledge). It involved a new approach to the cause and cure of diseases - an approach that was rational, humoral and centered on drug therapy and diet.

The term 'Ayurveda', it is stated, does not figure in the Vedic texts; it was in the post-Vedic period that Hindu medicine came to be known as Ayurveda.[5] In fact, the beginnings of this science of medicine may be traced first in the Rgveda, then in the Atharvaveda — this, perhaps, represents the initial phase in the development of Ayurveda.

Various views have been proposed in connection with the relation that Ayurveda bears to the Atharvaveda. According to Susruta, Ayurveda is an upanga (small appendage) of the latter and was originally composed by Brahma before he created the universe. The Ayurveda, as we know, consisted of 10,000 verses and the Atharvaveda contained 6,000 verses. But Dasgupta does not seem to agree with the above statement and asserts that if

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5. ibid.

the number of verses in the Ayurveda was more than in the Atharvaveda, it cannot be a part of the latter.[6] We have yet another opinion on this issue. Caraka, for instance, argues that the new system of medicine was not produced at any time out of nothing and that there was always a continuity of the science of life which has been in existence since ancient times. It is only with reference to its first systematized comprehension that it may be said to have a beginning.[7] The differing opinions may, however, lead one to conclude that the association of Ayurveda with the Atharvaveda was possible because both of them dealt with the curing of diseases and attainment of long life, the former principally by incantations and charms and the latter by medicines.[8] Even during the period of Atharvaveda, there was an elaborate pharmacopoeia treating diseases with drugs.

Ayurveda is known to have had a divine origin, as is also mentioned in the introductory passages of Caraka and Susruta Samhitas. As Haldar asserts, "although the origin of medical science lies in the mythology, it reveals an awareness of scientific thinking and attitude of the early Indians towards life and health."[9]

There are two versions of the origin of the ancient system of medicine. According to one school, the knowledge of

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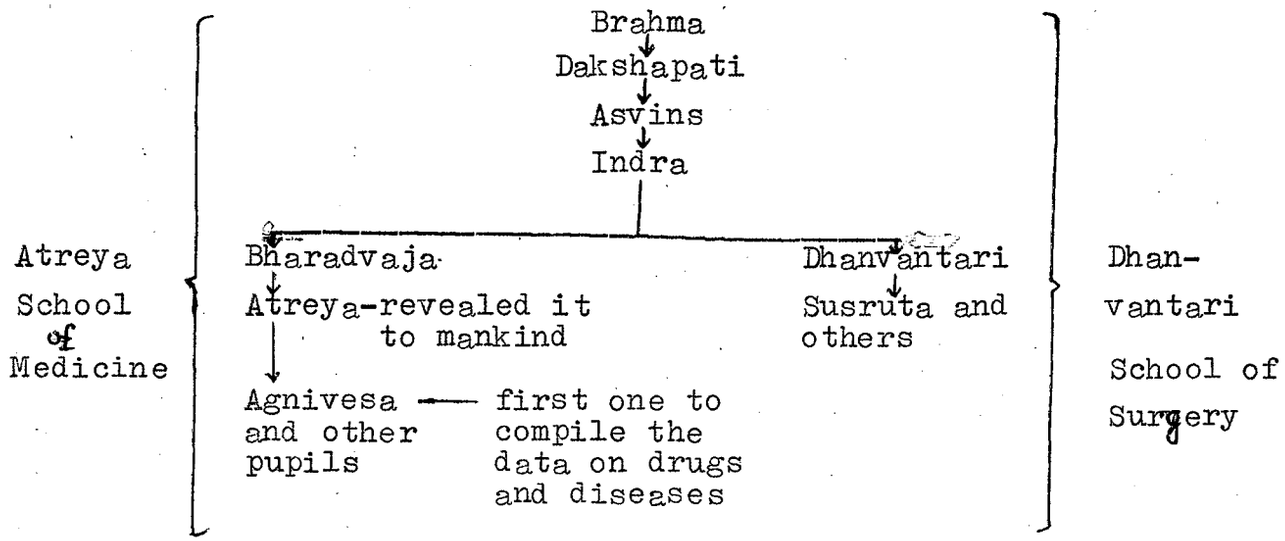
6. S.N. Dasgupta, A History of Indian Philosophy, 1952, Cambridge, Cambridge University Press, vol. II, p.273.
7. Caraka Samhita, 1949 (translated by Shree Gulabkunverba Ayurvedic society, Jamnagar), vol. I, no.3, p.24.
8. Dasgupta, op.cit., p.274.
9. J.R. Haldar, Medical Science in Pali Literature, 1977. Calcutta, p.1.

medicine was passed on by Brahma, the Creator, to god Dakshapati who revealed it to the twin physicians called Asvins, later to Lord Indra and finally to a sage called Bharadvaja. It is said that Bharadvaja had approached Lord Indra who then taught him the science of life and of symptoms of diseases and medication. He then bestowed it upon a group of sages who at that time were trying to find means of alleviating human suffering. One of the sages, Atreya, it is said, instructed six of his students — Bhela, Agnivesa, Jatukarna, Parasara, Harita and Ksharapani — who were later asked to compile all the data, pertaining to drugs and diseases collected in various parts of the country, in a complete treatise. Of these, Agnivesa became the foremost compiler of Ayurveda; his treatise was later redacted by Caraka and was named Caraka Samhita. The works of Bhela also are known to us.

The other school traces the origin of Ayurveda to Lord Dhanvantari who was taught by Lord Indra. It was finally revealed to Susruta.

Several works were then composed by the sages and these were subsequently grouped under the two schools. The two versions may be represented below:



## 3. Codification of Ayurveda

### 3.1 Transition in the Therapeutics of Indian Medicine

The period of sixth century B.C. is said to represent the classical age of Indian medicine with the founding of the Atreya School of Medicine and the Dhanvantri School of Surgery. It gave rise to two classes of physicians - one following the school of Atreya (physicians proper) and the other following the school of Dhanvantari (surgeons).

The shift from archaic medicine to rational therapeutics around the sixth centry B.C. involved a shift in the methodology of medical science too. The period was also marked by the emergence of different systems of philosophy which are known to have influenced Ayurvedic theories and concepts.[10]

The earliest system of philosophy that developed in India was the Samkhya philosophy the general theory of which, enumerating the formative elements of the universe, has been added on to the medical conceptions of Ayurveda. Accordingly, the human body is composed of five elements, namely, space, wind, fire, water and earth (also referred to as panca-bhuta) which form the material content of all things in the universe. Majumdar writes that the concept of microcosm, a central feature of Ayurveda, largely follows the philosophical doctrines of Samkhya and Vedanta schools of Indian thought.[11] His contention that Ayurveda,

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10. Majumdar, op.cit, p.238.

11. ibid.

like other philosophies, accepts that the highest aim of life is the quest for ultimate truth and realisation and that the final wisdom is to shed passions and illusions, has been questioned by Chattopadhyaya.[12] He comments that Majumdar has totally ignored the relevance of metaphysical concepts to medical practice. On the contrary, Chattopadhyaya does not disagree with the notion of the unity of man and nature and with the physicians' view that an adequate understanding of man presupposes a knowledge of nature as a whole. In fact, his argument is that the basis for viewing man as a microcosm of the universe has not been understood properly by Majumdar who, he says, attributes the same to the eternal spirit. To quote Majumdar, "both universe and man are manifestations of one and the same eternal spirit."[13] According to Chattopadhyaya, the philosophy of eternal spirit, called Sariraka, indicates a strong contempt for the body in which case any possibility of viewing man and nature and manifestations of the eternal spirit is ruled out; instead, the two are to be considered as made of the same stuff, namely, matter which the physicians of ancient India cognized in terms of five elements, as discussed earlier.

Another point on which Chattopadhyaya and Majumdar differ is the place of the law of Karma in Ayurveda.[14] While the latter, on the one hand, asserts that the law has been borrowed by Ayurveda from the Nyaya philosophy, Chattopadhyaya, on the other hand,

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12. Chattopadhyaya, op.cit., p.12.
13. ibid., p.11.
14. ibid., p.13.

makes two comments on the issue. Firstly, the theory of transmigration of soul and Karma evolved long before the emergence of Nyaya philosophy. This, in turn, rejects any claim of Ayurveda having taken over the theory from this system of philosophy. Secondly, even if Ayurveda incorporates these concepts, the efficacy of therapeutics would be least affected by them. That is, the physicians in ancient India were able to prescribe effective palliatives in many cases— even for diseases that they thought were incurable, besides the curable ones. This openly flouted the law of Karma according to which an incurable disease is the result of the bad deeds of a previous birth. It also opposed the law-givers for whom Karma justified the magico-religious therapeutics.

Yet another school of philosophy developed in the pre-Buddhist days in opposition to the orthodox philosophies.[15] It was called the materialist school of thought (or the Lokayata school) which was attributed to Carvaka as its founder.[16] Its basis was the identification of the soul and the body and the belief in the destruction of the former as a result of the destruction of the body, thus rejecting the concept of reincarnation. With the denial of Karma, the school denied the existence of fate and the merits or demerits acquired in previous life. Since materialism was annihilated by Hinduism, the school did not

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15. These include the Vedanta, Nyaya and Vaisesika schools of philosophy.

16. Sigerist, op.cit., p.174.

get a fair chance to develop further. Let us see how the philosophical concepts of materialism were borrowed by the Ayurvedic scholars.

The physicians, as a result of the new methodology of science, developed a materialist view of nature and took to direct observation of facts (natural phenomena) and the rational processing of empirical data. They observed a fundamental unity of man and nature, viewing man as a part of nature. Since man was believed to be made up of the same stuff of which everything in nature was made, nothing in nature was considered irrelevant for medical purposes;[17] the theory occupied a central place in Ayurveda. The transition in the therapeutics was a remarkable feature in the history of Indian medicine.

We shall presently deal with the contents of the important Ayurvedic texts which reflect certain aspects of rationality in Ayurveda. The two basic texts on Indian medicine are the compendia of Caraka and Susruta; a third one called Astanga Samgraha, a medical manual prepared by Vagbhata, also represents an important Ayurvedic work. Various chronological dates for the composition and redaction of these have been proposed by scholars. Caraka Samhita, for instance, has been placed in the period ranging from sixth to first century B.C. (Appendix I).

### 3.2 Contents of the Ayurvedic Texts

The two works reveal the extent to which knowledge of the application of drugs had advanced in ancient India. Caraka

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17. Chattopadhyaya, op.cit., p.8.

Samhita, for instance, gives a detailed classification and nomenclature of diseases — their aetiology, diagnosis and treatment. Although there were different schools of medicine in that period, three principles were shared by all[18]

a) the principle of causality of disease. Caraka Samhita mentions this as an important feature of Ayurveda;

b) diseases related to the natural rather than the supernatural phenomenon; and

c) there are ways of curing the curable disease.

Also, the materia medica of Ayurveda represents a full utilisation of environmental resources. The text gives an account of more than six hundred drugs for the cure of various ailments. One also finds a detailed description of medicinal prescriptions and therapeutic methods, the latter of which includes the various surgical processes for operations. Symptoms for a large number of pathological conditions have been dealt with at length. Susruta Samhita, on the other hand, gives primary importance to surgery in medical science. The two texts mention eight branches of medicine as written below:

a) therapeutics including aetiology, diagnosis and treatment of diseases

b) surgery

c) treatment of diseases of the eye, ear, throat, nose and tongue

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18. ibid., p. 22.

d) infantile disorders

e) treatment of disorders resulting from administration of poisons

f) knowledge of mental diseases

g) knowledge of tonics and drugs

h) knowledge of virilifics

Diagnosis of diseases, as mentioned in the Caraka Samhita,[19] was believed to have been done in the following manner.

a) authoritative instruction - by persons whose observations were not influenced by their personal likes and dislikes

b) perception - which included observation by the physician himself

c) inference - based on the experience of rational application of drugs. According to Caraka Samhita, a person possessing knowledge of the rational application of drugs is superior to one with the mere empirical knowledge of therapeutic substances.[20] Besides, science consciousness of the ancient physicians is also reflected in their ability to distinguish between the curable and incurable disease; in other words, the physicians were aware of the therapeutic techniques. The use of the opposite - that is, increasing what has diminished in the body and diminishing what has become excessive - served as a basis for the application of drugs and prescription of diets, perhaps related to the belief that body disorders are caused by an imbalance in the substances present in the body.

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19. Caraka Samhita, 1949, (translated by Shree Gulabkunverba Ayurvedic Society, Jamnagar), vol.I, no.1, pp. 120-3.

20. ibid.

## 4. Medical Science and Indian Orthodoxy : Reaction of Priestly Ideology to the New Medical System

It is significant to note that the mere knowledge of natural substances was not what made Ayurveda important in the history of science; it was the adequate use of drugs or the rational application of these, called 'Yukti', that was considered crucial - a key concept of Indian medicine.[21] It is now evident that therapeutics in Ayurveda was based on the application of drugs following a careful examination of the patient's condition.

Also, the humoral theory of Ayurveda, according to which there are three elements or humours in the human body, namely, air, bile and phlegm, formed the basis for the entire literature on pathology and physiology. Treatment then consisted in re-adjusting the deranged body humours.

Since the physicians of ancient India viewed everything in terms of matter, they were placed near the Lokayatas who were regarded as heretics by the Indian law-givers for rejecting the theory of Karma and reincarnation.[22] The school also declared the rituals of Brahmans a fraud and rejected the concept of supernaturalism; it declared that the endeavour to propitiate the gods through religious ceremonies, as mentioned in the Vedic literature, is illusive.

Subsequently, the physicians' rejection of scriptural declaration went against the ideology of the priestly authorities.

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21. Chattopadhyaya, op.cit., p. 9.
22. ibid., p. 75.

As Chattopadhyaya remarks, "the emphasis on supreme importance of knowledge based on direct observation was enough to annoy the spokesmen of orthodoxy, because it left hardly any scope for their advocacy for the implicit faith in the scriptures."[23] Also, the physicians' belief in the action of the drug being determined by the substance (drug) itself and not the supernatural was again withstood by the Indian orthodoxy.[24]

Another significant feature of ancient Indian medicine that was disfavoured by the authorities was the former's emphasis on dissection of corpse without which, as Susruta claims, the knowledge of anatomy was incomplete and unsatisfactory. The treatise mentions, "whoever wishes to practise surgery must prepare a corpse in the proper way and see by careful dissection every part of the body in order that he may have definite and doubtless knowledge", for direct observation would ensure the ultimate certainty of our knowledge of different organs of the body.[25] But what was it that created a need for dissection ? An answer to this can be furnished by a consideration of the empirical data collected for medical purposes. They are

a) the data regarding substances for treatment, and

b) the data on pathological symptoms.

It was the rational application of drugs that probably necessitated direct obsservation, the success of which was believed to depend on experience and dissection.[26]

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23. ibid., p. 97.
24. ibid., p. 155.
25. Susruta Samhita, quoted by Chattopadhyaya, ibid., p. 97.
26. Chattopadhyaya, ibid., p. 93.

But we find that contact with dead bodies was tabooed by the law-givers in ancient India and anyone who touched them was to submit to purification by baths and religious ceremonies. Study of anatomy was, as a result, rendered very difficult, thus creating obstacles for the progress of medical science.

As a result of the new methodology of medical science, the doctors came under strong condemnation from the religious orthodoxy and medical practice was sought to be restricted to the base-born people in the hierarchical society. So also the art of rhinoplasty and bone-setting, though reflecting the medical knowledge of the physicians, suffered a decline as a consequence of the growing prejudice against dissection of human cadaver. In fact, strictures against direct knowledge was strongly pronounced by religious orthodoxy in ancient India.[27]

A similar situation could also be observed in ancient Greece and other European countries where practice of dissection was relegated to barber-surgeons. This would lead us to say that besides India, dissection was not favoured by other ancient medical traditions too. In ancient Greece, as in other ancient civilizations, disease was believed to be inflicted by god; man's fate was said to be entirely in the hands of the supernatural. A comparison of Indian with Greek medicine should suffice to indicate the factors influencing the development of the two medical systems.

While Greek medicine, on the one hand, accorded more importance to theory, Indian physicians, on the other, believed

27. ibid., p. 269.

in the practice of medical science,[28] the reason for ignoring manual work of practice being the general contempt for it by the new class that emerged in Greece around the fifth century B.C. As Farrington puts it, "the head was independent of the hands."[29] In other words, theory bore no relation to practice for the leisured class. The job of collecting herbs for therapeutic purposes was relegated to manual workers or herb collectors ranking low in the hierarchical society. As a result, the physicians, it is known, failed to acquire knowledge of the use of drugs. Even the famous Greek medical text, Hippocratic Corpus, does not make a mention of the pharmacopoeia. Thus we can point out that the situation was somewhat different in India where one finds an elaborate description of the application and collection of drugs in the ancient medical texts. The Indian physician, unlike that of Greece, was expected to have a sound knowledge of herbs and what was despised by the law-givers was the rational application of these. The factor influencing the medical traditions in ancient India and Greece then appears to be the same — the attitude to manual work.

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28. Western scholars assume that Greek medical knowledge diffused throughout the ancient world to become the basis for all subsequent developments and that the elements of Indian medicine were borrowed from Greek science. But Filliozat, a leading French Sanskritist, urged that the two medical traditions, Indian and Greek, developed in a parallel fashion. Similarly, the diffusion and spread of Indian medicine to neighbouring countries in Central and South-East Asia, with the spread of Buddhism is comparable to the spread of Greek medicine throughout the West and the Eastern world.

29. B. Farrington, Head and Hand in Ancient Greece, 1947, London, p.29.

The later Vedic literature - the Yajurveda and the Brahmanas-for the first time gives evidence of the hostility of the priests to scientific development.[30] Of the two versions of Yajurveda called the White (Sukla) and Black (Krishna), the latter gives a detailed account of the denunciation of the ancient physicians. Taittiriya Samhita, one of the recensions of Black Yajurveda, clearly expresses the attitude of priests to doctors. Besides, the Satpatha Brahmana also mentions the degradation of twin-physicians for their association with common people — for their commitment to democratic values. The other recensions of Black Yajurveda — the Kathaka Samhita, the Maitrayani Samhita and the Kapisthala-katha Samhita — suggest similar reasons for granting Asvins as impure; firstly, because they are doctors and secondly, because their profession requires them to mingle with the common people.[31] But according to Filliozat, there is an evidence of intrapriestly rivalry too in the Yajurvedic tradition. The Yajurvedic priests, he says, were categorised into three schools, one related to Black Yajurveda called the Caraka Sakha which gave us the three recensions as mentioned above, the other pertaining to Taittiriyas, the recension of which came to be called Taittiriya Samhita, and lastly, the school of White Yajurveda represented by Vajasaneyi Samhita. The latter two, however, were the ones that clearly censured the the Caraka Sakha. But according to Chattopadhyaya, the main purpose of degrading Caraka by White Yajurveda and Taittiriya

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30. Chattopadhyaya, op.cit., p.225.

31. ibid., p. 246.

Samhita does not necessitate the inclusion of Asvins and the pronouncement of impurity on them. On the contrary, censuring of Asvins was a persistent theme of the entire Yajurvedic tradition.[32] Also, Filliozat's contention that the Asvins were downgraded because they were soma-drinkers has been considered fictitious by Chattopadhyaya for whom the passages in Rgveda indicating Asvins drinking soma in the company of other renowned Vedic gods, is enough to support his argument against Filliozat. He states that it is because of the hierarchical aspirations that Yajurvedic priests censured the physician-gods and that the entrenching hierachical society in the Vedic tradition proved inimical to medicine in its developing form.[33]

For Chattopadhyaya, the origin of Ayurveda is not to be traced in the Vedic tradition, as Filliozat would have claimed, but in the period following the vedas or the so-called Samhita or Brahmana period characterised by a systematic codification of medicine. The systematic and rational medicine probably emerged as a consequence of the prolonged discussion and discourses on rituals of sacrifice. Since the Brahmanas were compiled at the same time, the philosophical basis of Ayurveda could not be left unchallenged by the theoreticians of the former.

## 5. Legal Contempt for Ayurvedic Physicians: Continued Attack on Indian Medicine

The legal contempt for ancient medicine and its practitioners can be traced as far back as the sixth century B.C.;[34]

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32. ibid., p. 252.
33. ibid., p. 257.
34. ibid., p. 273.

as is also evidenced by the law-codes of the earliest group of Indian law-givers represented by Apastamba, Gautama and Vasistha. The entire legal literature starting from the Christian era to the period of Manu indicates a strong contempt for the emphasis laid on empirical knowledge in Ayurveda. As Chattopadhyaya puts it, "the usual way of expressing their hostility was to declare the doctors as intrinsically impure human beings — so impure that their very presence pollutes a place, that food offered by them is too filthy to be accepted and that even the food offered to them turns into something vile."[35] Let us see what the Dharmasutras, the law-codes of the earliest law-givers, have to say about the ancient system of medicine.

The Dharmasutras, it is said, were developed into smritis, oldest among which is that of Manu. The latter's attitude to physicians in ancient India reflects the prejudice against manual practice and, therefore, also against the craftsmen in general.[36] Their very presence, according to Manu, was believed to destroy the sanctity of sacrifice for which reason the surgeons were not allowed at sacrificial ceremonies. In the words of Chattopadhyaya, "medicine was regarded as too derogatory a profession to be followed by any member of a privileged class or the dvijas and was finally entrusted on

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35. ibid., p. 213.
36. ibid., p. 123.

the base-born offsprings of Aryans;[37] the latter, according to the law-codes of Baudhayana, were called the ambasthas.[38] All this is not to indicate that the law-givers were unaware of the use of medical care, but despite its utility, medical practice was viewed as, by nature, degrading.[39]

The law-codes of Baudhayana and Manu also fail to speak of the fourth Veda — the Atharvaveda — simply because the latter dealt with the rational therapeutics besides the ones related to witchcraft or hostile sorcery. The Dharmasutras, Chattopadhyaya argues, are not to be considered as law-literature since their main purpose was to validate and preserve the hierarchical society and the task was perhaps accomplished by emphasizing in the texts the religious duties of man rather than discussing the legal aspects alone.[40] To quote Winternitz, "these manuals were written by Brahmins, priests and scholars for the purpose of imparting instructions and were not written as codes for practical use in the codes of law".[41]

But inspite of the weighty evidence adduced by several authors to show that Ayurveda was being downgraded by orthodoxy, a few points in clarification ought to be made. We fail to find in the works of these authors any criticism against the Ayurvedic texts as such. Therefore, it is not fantastic to assume that it was not the craft of Ayurveda that the orthodoxy was against

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37. ibid., p. 216.

38. These were believed to be the offsprings of Aryans, born in violation of mating laws - a Brahmin male with a Vaishya female.

39. Chattopadhyaya, op.cit., p. 216.

40. ibid., p. 222.

41. Winternitz, quoted by Chattopadhyaya, ibid., p. 223.

but that the latter was making sure that the Ayurvaids did not claim a superior position in the social hierarchy. To this effect, the beliefs on pollution and purity were activated which, in turn, further pushed status seeking Ayurvaids away from conducting renewed investigation in the science of medicine. The Ayurvaids thus became, with the passage of time, the purveyors of the healing art much like the Hippocratic physician in ancient Greece.

## 6. Development of State in India and its Reaction to Indian Medicine

Indian society at the time of Aryan invasion was simple and was comprised of the warriors, priests and the common people and "the first step in the direction of caste", as claimed by Thapar, "was taken when the invaders began to treat the Dasas or the original inhabitants beyond the social pale."[42] The Varna system based on the hierarchy of occupation then dominated the entire society. This was promoted by the transition from nomadic pastoralism to a settled agrarian economy. Gradually, the increasing new settlements and the clearing of forests led to the emergence of a trading community aiding in the supply and exchange of goods. This further enhanced the creation of powerful kingdom deriving revenue from agriculture.

It was in the sixth century B.C. that contradictions began to develop between the settled tribal organisations (constituting the republican areas) and the new political

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42. R. Thapar, A History of India, 1966, vol.I, Penguin, p.37.

phenomenon, the monarchy. The period also witnessed an increasing growth of towns, an impetus to which was given by the increasing trade, facilitated by the introduction of monetary system, between India and the neighbouring countries; the founders of the two great religions — Buddhism and Jainism — belonged to one of these republics as a result of which the two gained considerable support in the republican areas. Since the monarchs followed the Brahmanical theories,[43] they were reviled in rural areas which, incidentally, had active supporters of Buddhism. This may have led to the increasing disputes between the monarchs and the followers of its rival faith. The period, perhaps, marked the beginning of the mercantile system in ancient India.

Buddhism, by that time, had become popular in rural areas; in fact, it gained more popularity by appealing to the oppressed castes or the Shudras.[44] But the spread of Buddhism probably went against the Brahmanical ideology since the Buddhists, we know, even questioned the authority of the Vedas; they are also known to have challenged the validity of the law-givers (Smriti writers) and the priestly authorities - all this was never appreciated by the Brahmanical custodians of Indian cultures.[45]

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43. ibid., p. 53.

44. There have been instances of the lower sections of society converting into Buddhists as is exemplified by Maharashtra (rural) claiming over two million Buddhists who were largely converts from the untouchable castes.

45. L. Joshi, Studies in the Buddhistic Culture of India, 1964, Delhi Motilal Banarsidass, p. 398.

Of all the occupations during the period of Buddha, the doctor's profession appeared to have been valued the most, as is evidenced by the frequent appreciative mention of the activities of a doctor called Jivaka during the period.[46] Buddha's interest in medicine is also reflected in the various texts comprising the Vinaya-pitaka, a collection of rules for Buddhist order. One of these, called the Mahavagga, provides an invaluable source for the history of Indian medicine because it contains a long section on medicaments which clues to the awareness of the existence of the rational system of medicine or the Ayurveda. Also, the medical care described in the Mahavagga, as Chattopadhyaya says, appears to be reminiscent of the system of rational therapeutics of the Caraka Samhita according to which, of the four factors[47] on which the success of medical treatment depends, one is the patient himself. This again justifies the priests' contempt for Indian medicine. Moreover, the omission of the law of Karma, in which the orthodoxy was interested in seeing the cause and cure of disease, from the text was sufficient to annoy the Indian orthodoxy. As a reaction to this, Taxila, a famous centre for the cultivation of medical science, was considered an impure region by orthodox Brahmans,[48] thereby indicating the intensification of the contempt

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46. N. Wagle, Society at the time of Buddha, 1966, Bombay, Popular Prakashan, p. 140.

47. The other three factors are the doctor, the nurse and the medicine.

48. Thapar, op.cit., p. 59.

for medical science. But what is amazing is that in the same period, one comes across a physician called Akasgotta Vejja who, unlike Jivaka, was a Brahman but was hostile and even insulting to Buddha,[49] despite which he prospered and flourished well during the period. Another physician, Nagasena, figures in the Buddhist text called Milindapanhal belonging to the first century A.D.

With Buddha advocating the use of Ayurvedic medicine, what remains to be discussed is the manner and the extent to which the succeeding rulers patronised this system of medicine.

## 7. Support to Ayurvedic Physicians by the Buddhist Rulers in Ancient India

In the post-Vedic period, we find several changes in the political climate of the country. With the support lent to Buddhism, the latter came to establish firm roots in India; this, in turn, may have intensified the hostility of Brahmans to the Buddhist patrons. The Brahmans, it is said, never accepted the growth of Buddhist faith, although at a later date they were counted as one of the Avataras.[50]

Buddhism is stated to have flourished well under the Mauryan kings and about the first or second century B.C., Mahayana Buddhism was recognised as a religion which gradually spread to the adjacent regions too. It is also known that

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49. Vinaya-pitaka, cited by Wagle, op.cit., p.220.

50. Joshi, op.cit., p. 394.

Ashoka built temples for Siva (Hindu God) and monasteries for Buddhist monks and that during his reign, the two religions — Brahamanism (Saivism) and Buddhism—flourished and co-existed and even claimed the same persons as their devotees.[51] Perhaps, this represents the beginning of a rapprochement between the two faiths. As pointed out by Dutt, "the explanation that can be offered for such amity between the two religions is that while Buddhism catered to the ethical needs of the human being, Brahmanism catered to the religious needs; the former made no provision for rites and rituals. All that Buddhism demanded of its followers was amity and moral life with faith in Buddha as the liberator of mankind from the worldly sorrows."[52]

The reign of Ashoka is also important from the point of view of medical history as he initiated the establishment of hospitals all over the country.[53] All branches of Ayurveda had spread to foreign lands through Buddhist monks of the period.

The subsequent period, the reign of the Sungas, witnessed a revival of Brahmanism alone - the rulers were anti-Buddhist in spirit. By the time the Greek rulers came to India, which was shortly after the downfall of Sunga dynasty, Buddhism had obtained a firm footing and was even welcomed by these foreign rulers.

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51. N. Dutt, Mahayana Buddhism, 1977, Delhi, Motilal Banarsidas, p. 14.

52. ibid., p. 14-5.

53. J. Mitra, History of Indian Medicine from pre-Mauryan to Kushana period, 1974, Varanasi, Jyotirlok Prakashan, p. xiv.

Following the Greeks and the Sakas, both of whom patronised Buddhism, the Kushanas too adopted the same as their religion and spent lavishly on the erection of stupas, temples and images of Buddha in several parts of north India.[54] Kanishka, one of the emperors of Kushan dynasty, is also said to have embraced Hinduism. Ray Chaudhuri remarks that the Kushana age was a period of great missionary and literary activities.[55] Nagarjuna, a great exponent of Mahayana doctrine and Caraka, a celebrated physician, are known to have existed at the time; the latter, in Chinese sources, appears as the court physician to king Kanishka. Perhaps, a significant achievement of Indian medical practitioners in ancient India had been the inclusion of metals in the Ayurvedic pharmacopoeia,[56] initiated by Nagarjuna, a famous Indian alchemist in the eighth century A.D. This is yet another evidence of the Ayurvedis existing at the royal courts. Moreover, since the Brahmanical ideology was opposed by the Buddhists, the very fact of the Ayurvedic physicians receiving State patronage may have intensified the former's hostility to physicians.

During the reign of the Guptas, worship of images of Buddha with elaborate ritualism became a universal practice and was, as a matter of fact, a notable feature of the Buddhists during the period.[57] On the one hand, the period was marked by

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54. Dutt, op.cit., p. 6.

55. Ray Chaudhuri, cited by Dutt, op.cit., p.16.

56. K.C. Chakravarti, Ancient Indian Culture and Civilization, 1961, Bombay, Vora, p. 273.

57. A. Cuningham, cited by Joshi, op.cit., p.9.

the growth of Brahmanical cults like those of the Bhagvatas and the Saivas, while on the other it witnessed the establishment of several monasteries. The Gupta emperors, we are told, patronised Brahmanism; nevertheless, they showed a marked tolerance towards Buddhism. "This fact of common patronage to the two faiths", as Joshi seems to contend, "naturally brought Buddhism nearer to Hinduism".[58]

The rulers' interest in medicine found expression in the increasing number of compilations brought out during the period. Important Ayurvedic texts, Caraka and Susruta Samhitas, are believed to have been redacted in this period. In fact, a noteworthy achievement in the field of medicine during the reign of Guptas was the compilation and renovation of earlier texts but with little new knowledge of any significance.[59] A similar opinion is given by Filliozat according to whom, the redactors of the original works of Caraka and Susruta Samhitas limited themselves to collecting the facts without any systematic description of medical science.[60]

Vagbhata, a physician of the fifth or sixth century A.D., is known to have summarized Caraka's work into eight chapters; his work later came to be called Astanga Samgraha or Astanga Ayurveda.[61] We also know of a physician called Dhanvantari

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58. Joshi, ibid., p. 8.

59. Thapar, op.cit., p. 154.

60. J. Filliozat, The Classical Doctrine of Indian Medicine, 1964, New Delhi, Oriental Publishers, p. 1.

61. Chakravarti, op.cit., p. 273.

who existed at the court of king Vikramaditya. This again points to the flourishing of the practitioners of Ayurveda under State patronage.

Support to the two faiths in Gupta period seems to have continued in the subsequent dynasties too. Harshavardhana, for instance, is known as a liberal patron of philosophers, sages and of Buddhism and Hinduism.

An interesting feature of the Gupta and post-Gupta periods was the constant compilation and redaction of medical works by the earlier men of science; nevertheless, these do not appear to be free from Brahmanical bias. This is evidenced by a passage in the later redaction of Susruta Samhita where there is a mention of the doctor being subservient to the priest. Also, the manner in which Susruta Samhita explains the relation between the doctor, patient, medicine and nurse — the four factors on which depends the success of medical care — no doubt reflects the intentions of the physicians in favour of the priests. The text says that the three factors of treatment would be ineffective in the absence of a physician, like a religious ceremony performed in the absence of a priest.[62] Another instance of religious concession may be cited here. The extant Caraka Samhita, it is said, fails to include Bharadvaja for the simple reason that the latter believed in the laws of nature. The later redactor of the text then dropped Bharadvaja and began anew with Atreya. As Chattopadhyaya suggests, "to add apparent

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62. Chattopadhyaya, op.cit., p. 37.

conviction to its loyality to the norm of orthodox piety, special chapters are added to the text for loudly proclaiming the theory of soul and its salvation".[63] Does this not indicate, it is argued, the continued dominance of the Brahmanical ideology during that period?

The Gupta period also saw the acceptance of the Aryan pattern in India an important aspect of which, as Thapar seems to assert, was the firm establishment of the status of Brahmans during the period. Also, the fact that a number of texts were re-written with an underlining of the Brahman viewpoint certainly reflects the high status of these.[64] The granting of land to Brahmans, which increased during the post-Gupta period, again emphasises the pre-eminence of Brahmans in society.

Around the eighth or seventh century A.D., the growth and popularity of Mahayanism led to an increasing emphasis on the prayers, incantations and rituals; it incorporated many folk beliefs and, as Joshi remarks, "in doing so, the Buddhists made a clear approach to Hinduism"[65] to such an extent that the distinction between the two became tenuous. The introduction of tantrism[66] in Buddhism further narrowed down this distinction. The restrengthening of the hierarchical

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63. ibid., p. 425.

64. Thapar, op.cit., p. 166.

65. Joshi, op.cit., p. 392.

66. This was the third phase in the development of Buddhism, the other two being the Hinayana and the Mahayana. By this time, there was a complete assimilation of Buddhism into Hinduism and Buddha came to be worshipped as one of the Avataras.

society during the Gupta and later period probably had a declining influence on Buddhism.[67]

8. Summing up: Medicine and State in Ancient India

To sum up, for Chattopadhyaya, what proved fatal to Indian medicine in the ancient period was the offering of ransoms by medical practitioners to the counter-ideology so as to prove innocuous in the eyes of the Indian orthodoxy, thus making their compilations acceptable to them. This was believed to have been the most serious internal cause accounting for the complete decadence of Indian medicine. But we know that there were practising Ayurvaids in Hindu courts as well, some of whom are known Ayurvedic exponents. This was probably related to the fact that Hinduism and Buddhism were commonly patronised by ancient Indian rulers. In fact, the beginnings of a rapprochement between the two faiths may be traced to the Mauryan dynasty of which we know that the rulers actively supported the establishment of Buddhist monasteries along with Hindu temples.

Besides, the reign of the Guptas, too, brought about a re-establishment of Hinduism as a distinct religion. It is agreed that there was some degree of concession to religious orthodoxy in ancient India but the paradigm of Ayurvedic medicine remained the same. To elaborate, the practice of medicine and the humoral theory were left unaltered, though practice of

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67. Joshi, op.cit., p. 397.

dissection fell into the background. Moreover, the compilation work in the Gupta and post-Gupta periods did not result in scientific break and as such no significant addition characterised the medical compendia of the period.

It should also be said that those Ayurvaids who listened closely to the objections of the orthodoxy, in all likelihood, distanced themselves from polluting agents or how else could they have been so enthusiastically patronised by several royal Hindu courts. The fact, however, remains that the Ayurvedic texts remained, in the pharmacopoeiac essentials, unaltered with the passage of time from the days they were originally conceived. The use of the religious metaphor here or the dropping of a non-religious preceptor these did not alter substantially the contents of the codified texts of Ayurveda. Therefore, and this is our final point, though Ayurveda was patronised by the State, this did not lead to the regeneration of the science of medicine. Can we then say that State patronage does not necessarily rejuvenate a science? Can we then also say that the State often patronises an art after it has been estranged by science ? The implications of all these questions are far-reaching, and we shall attempt to go into them in the following pages of this dissertation.

# CHAPTER III

# MEDICINE IN THE MEDIEVAL PERIOD IN INDIA

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### 1. Introduction of Unani Medicine

The medieval period, during which Unani medicine was introduced, is characterised by the establishment of Muslim rule in India.[1] In fact, it was the period during which there was extensive contact and interaction between the two systems of medicine, namely, Ayurveda and Unani.[2] Since the two were co-existent, a study of medicine in this period of Indian history would throw light on the attitude of the rulers to the ancient medical system of Ayurveda. Hence, it is possible to find out the extent to which indigenous medical system, the importance of which is evident from the fact that it had penetrated into different corners of the world through visiting scholars and emigrant doctors,[3] was able to flourish after a new system of medicine had been introduced. An attempt has, therefore, been made to deal with the state of medicine during the reign of Muslims in India.

It will soon be apparent that under Muslim rule, a greater emphasis was laid on the propagation of Unani. The pages to follow will, to a large extent, centre around Unani. This is reflective of the material of that period and we purposely did

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1. The ruling class in medieval India was comprised of the kings, princes, feudal lords and the courtiers.
2. V. Ramalingaswami, Inaugural address, Indian Journal of History of Science, New Delhi, May 1981, vol.16, no.1.
3. Majumdar, op.cit., p. 262.

not wish to go against the current and tenor of the available literature in order to concentrate on Ayurveda alone. We thought it worthwhile to look into Unani medicine as well — its system of State patronage, its interaction with Ayurveda — so that we get a larger understanding of ancient medicine as such and the potentialities of its dynamism.

The Unani system of medicine is also referred to as Greco-Arab medicine since it was taken from the Greeks by Arabs who modified it as a result of their own observation and experience.[4] As Chandpuri says, "with the decline of ancient Greece, the Arabs took up their knowledge of science and enriched it by what was best in the contemporary systems of medicine in Persia, India, China and other regions of central and southern Asia."[5] With the advent of Muslim rule, Unani medicine also came to be introduced here. The system, it is said, was later organised on sound lines by the Mughals.[6]

## 2. Co-existence of Medical Traditions through State Patronage in Medieval India

To begin with, the Muslim rulers are known to have attracted several reputed vaids (practitioners of Ayurvedic medicine) and hakims (practitioners of Unani medicine) from

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4. M.Z. Siddiqui, "The Unani - Tibb (Greek medicine) in India" in Bose (ed.), op.cit., p. 268.

5. K. Chandpuri, "Unani Medicine in the Mughal Age", Studies in History of Medicine, New Delhi, Sept. 1978, vol.II, no.3, pp. 171-182; p. 171.

6. T. Siddiqui, "Unani Medicine in India", Indian Journal of History of Science, New Delhi, May 1981, vol.16, no.1, pp. 22-25; p.23.

different parts of India and conferred upon them high salaries, probably to encourage them to improve the healing art. Each ruler had several Muslim and Indian physicians who took active part in contributing to the development of Unani literature. A large part of this literature consisted of translations or summaries of important works, including those of Ayurveda.[7]

Achievements of Ayurvedic and Unani physicians figure in the medical manuscripts produced during the reign of Muslims. The fact that books on Greco-Arab medicine were largely influenced by the Indian system of medicine, does reflect the importance of traditional medicine.[8]

Moreover, the hospitals established by the Muslim emperors had hakims working with vaids, thereby indicating that even though Ayurveda had stagnated in the ancient period, efforts were constantly made by successive rulers to patronise it. Due to the personal interest of the kings in medicine, the two systems were able to flourish and co-exist. However, it was during Akbar's reign that the two traditions received the greatest fillip.[9]

It would be worth mentioning here that in the early period of Muslim rule, Indian medicine languished for want of State support[10] and continued so until the accession of Firoz Tughlaq to the throne in the fourteenth century. But from the

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7. M.Z. Siddiqui, op.cit., p. 272.

8. Keswani, Medical Education in India since Ancient times (A talk presented at the International Symposium held at California), 1968, p. 58.

9. ibid., p. 62.

10. ibid., p. 59.

reign of Firoz Tughlaq onwards, as the available evidence shows, a large number of Ayurvedic treatises were also compiled and translated.[11]

The Muslim royalty, in the early period of its rule, is stated to have recognized the physicians (hakims) brought from Persia and other regions but encouraged them to develop literature on Unani medicine by consulting Ayurvedic sources. To quote Keswani, "the successive rulers[12] realised the value of ancient medicine and allowed their hakims to translate the Indian medical texts into Persian."[13] The first such translation was called Tibbe Firoz Shahi, compiled during the reign of Firoz Tughlaq. Practitioners of Unani medicine, we know, were appointed at the court of the rulers; nevertheless, physicians of Ayurveda too were employed in the hospitals along with hakims.[14] Both the classes of physicians are believed to have co-operated and worked together.

The State support and encouragement to Muslim physicians to translate Ayurvedic works along with those of Unani does indicate that due consideration was given to Indian medicine in the period. The following is an account of the

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11. Sen, op.cit., p. 54.

12. It appears that the successors to Mohammad Tughlaq favoured Ayurveda because the first translation of Ayurvedic treatises was brought out during the reign of Firoz Tughlaq.

13. Keswani, op.cit.

14. I.A. Khan, "The Middle Classes in the Mughal Empire", Social Scientist, Trivandrum, 1976-77, vol.5, no.1, pp. 28-49; p. 40.

political patronage extended to the traditional medical systems by various medieval Indian rulers.

To begin with, several Unani physicians came to India from different parts of the country during the reign of Altamish, around the early twentieth century. They either set up their own clinics or worked at the royal courts. The reign of the Khilji nobles also is significant, since the economic prosperity and political stability during the period attracted eminent physicians into India. In the subsequent period, one finds an increasing number of compilations brought out by hakims. This was the rule of Mohammad Tughlaq when an important manuscript called Majmuai-i-Ziae was compiled by one of his courtiers. It gives an account of the knowledge and practice of medicine in that period followed by a description of the humours and anatomy of the human body; lastly, it also includes chapters on different diseases and surgical procedures. What is worth noting is that the manuscript was based on the Arabic and Ayurvedic medical works[15] thus reflecting the value of ancient medicine.

Firoz Tughlaq, like his immediate predecessor, had, it is said, a thorough knowledge of Unani medicine and was a good bone-setter too. He is also believed to have attended to patients in a hospital founded by him.[16] As for the provincial Muslim kings, they too encouraged their court physicians to compose medical works and thus to cultivate Unani medicine in India. Ali Muhammad, one of the physicians to a ruler, translated a book of Vagbhata into Persian. Similarly, Mahmud Shah,

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15. M.Z. Siddiqui, op.cit., p. 270.
16. ibid.

though being a provincial ruler, translated certain Ayurvedic works into Persian since the latter happened to be the court language during that period.[17] We then come back to the same question of State support which, as we have seen, was lent to Ayurveda and Unani for which reason the two were able to flourish well.

Patronage to Ayurveda is also found in the subsequent period of Indian history — that is, the rule of the Mughals which was established in the sixteenth century and flourished up to the end of the eighteenth century.

Hakim Yusuf bin Muhammad, a physician during Babur's reign, was one of the pioneer scholars known to have composed medical works integrating the two systems of medicine. He collected relevant material pertaining to hygiene, diagnosis and treatment of diseases from Indian medicine and integrated it with that of Unani medicine,[18] thus highlighting the significant aspects of Ayurveda too.

During the reign of Humayun, several manuscripts on Unani medicine were brought out but no significant contribution was made to Indian medicine.[19] Nevertheless, an important encyclopaedic work on twelve different subjects, inclusive of medicine, was compiled by Maulana Muhammad Fazl — a celebrated

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17. ibid, p. 271.

18. Jaggi, op.cit., p. 144.

19. R.L. Verma and N.H. Keswani, "Unani Medicine in Medieval India: Its Teachers and Texts" in N.H. Keswani (ed.), op.cit., p. 133.

philosopher-physician at Humayun's court. After Humayun, Akbar, having descended the throne, was equally enthusiastic about providing medical facilities. His reign was marked by the spread of Unani medicine to every part of India and the migration of several reputed hakims from Persia. The period was often regarded as the starting point of the promotion of scientific tradition along with social and cultural developments.[20] Akbar is even said to have established a bureau for translation and compilation which gradually attracted numerous medical practitioners from far-off places.[21] To quote Chandpuri on the above issue, "the spur in the literary activities was the interest that the reigning monarch took in them."[22] Stated differently, it was probably the rulers' interest in medicine that urged the scholars to engage themselves in their work.

The Ayurvedic system of medicine was not discriminated against under the Mughal regime. Besides the Muslim physicians, three Hindu physicians also were appointed at the court of the emperor.[23] Pharmacology, too, received great attention during Akbar's reign. Most of the physicians ran private clinics which were open to the people, irrespective of their caste or creed.

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20. Chandpuri, "Fawaid Al-Insan: A Rare Manuscript of Akbar's time", Studies in History of Medicine, New Delhi, June 1977, vol.1, no.2, pp. 122-128; p.122.

21. ibid.

22. ibid.

23. R.H. Major, A. History of Medicine, 1954, Oxford, Blackwell, p. 81.

Of the several revenue grants in Mughal India, mention shall be made of those assigned for the maintenance of medical schools or what were called madrasas, set up in the late medieval period as centres of education, especially in the field of Unani medicine. The grants, often referred to as 'auqaf', were assigned permanently in trust to the institutions by the Mughals.[24] This would, perhaps, reflect the State's concern for Unani medicine. In other words, the medieval Indian rulers appeared to have been very enthusiastic about advancing Unani medicine in India and made every attempt to popularise it by establishing madrasas and assigning grants for the benefit of the staff as well as for the maintenance of the institutions; nevertheless, we have no evidence showing that the Mughals proscribed Ayurvedic medical schools.

The reign of Jahangir is also significant as it witnessed the establishment of several hospitals superintended by physicians for the benefit of the sick. The task of compiling and translating important medical texts continued in this period too. It is said that Hakim Ruhuallah, a distinguished practitioner of Unani medicine, translated an Ayurvedic treatise on hygiene during his reign. He also produced an encyclopaedic pharmacopoeia embodying the techniques and practices followed by Unani and Ayurvedic physicians for the cure of ailments. It is also stated that Jahangir was well versed in medical science for which reason he was able to prescribe medicines successfully.[25]

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24. I. Habib, The Agrarian System of Mughal India: 1556-1707, 1963, New Delhi, Asia Publishing House, p.312.

25. Verma and Keswani, op.cit., p. 137.

The healing art, as Jaggi asserts, reached its zenith during the reign of Shah Jahan[26] who took deep interest in equipping the entire country with hospitals throughout its length and breadth. It was in this period that a famous hakim, Masih-uz-Zaman - Hakim Nur-ud-din Muhammad Abdullah who excelled in surgery, compiled a treatise embodying the achievements of Unani and Indian physicians during the reign of Akbar, Jahangir and Shah Jahan.[27] Another medical work containing the principles of using various drugs and the practices followed by the two classes of physicians in that period, was composed in 1638 by one hakim Amanullah.

The reign of the successive ruler, Aurangzeb, is noteworthy for the publication of most of the standard works on Unani medicine. As Keswani puts it, "it was a highly propitious time for Unani medicine to flourish."[28] Even for Ayurveda there is no evidence to suggest that Aurangzeb tried to throttle it. If he did, that would certainly have been recorded somewhere, as till Aurangzeb's accession, both the systems were patronised conjointly. An essential feature of his rule is that the various medical compilations of his time have been used by the Unani teachers as text-books for training students in this field, since 1700.[29] Since the institutions for Ayurveda and Unani, in the late eighteenth century, imparted education in both the systems

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26. Jaggi, op.cit., p.181.
27. ibid.
28. Verma and Keswani, op.cit., p.138.
29. ibid., p.139.

of medicine, it is quite probable that the text-books were utilised by Ayurvedic teachers too.

3. Medical Systems outside the Royal Courts

The foregoing discussion is suggestive of the fact that indigenous medicine did receive support from the medieval Indian kings - the patronage consisted in encouraging physicians to develop medical literature and in establishing hospitals and clinics where the practitioners of Ayurveda could work in collaboration with those of Unani. In this context, it shall be pointed out that the physicians of Unani and Ayurveda and other professionals, merchants, constituted a distinct category of social groups in Mughal India — distinct, because, as Khan remarks, "their means of sustenance were independent of feudal property."[30] The physicians at the royal courts obtained a respectable income and the salaries earned by them would be characterised as feudal patronage[31] rather than for a service in demand.[32] This was true of the physicians serving the State in Mughal India; a majority of the former was Persian. These were generally more prosperous and enjoyed greater social prestige. As for the physicians of the lower echelons (or ordinary physicians), a large number of whom also belonged to the class of vaidyas, they were supported by the middle classes of Mughal India (that is, the mansabdars).[33] The latter appointed them as 'consultants

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30. Khan, op.cit., p.28.

31. Economy in medieval India was characterised by the feudal mode of production in which the subordinate communities were related to the State through various local intermediaries and local feudal lords.

32. Moreland, cited by Khan, op.cit., p.37.

33. Mansabdars were the holders of ranks or mansabs bestowed upon them by the emperor.

looking after the health of the troopers and offered them handsome perquisites. This was enough to lure tabibs (or hakims) from smaller towns to seek employment under the mansabdars.[34] The few hospitals established by the State in some of the towns were another agency providing employment to these ordinary physicians. Since the latter were assigned the important task of caring for the troopers, their services were considered equally indispensable for the efficient functioning of the imperial war machine.[35]

We now have two classes of physicians - one working with the mansabdars and the other serving the kings and nobles. Though the former outnumbered those at the State level, the nature of the services rendered by the two was considered equally significant. It is thus possible to say that State patronage was not an absolutely essential factor for indigenous medical system to thrive during the period. That is, the physicians working with the middle classes did fairly well though not as well as those at the royal courts.[36]

With the passage of time, there set in a gradual deterioration of the political stability in the late medieval period. Conflicts began to develop at different levels of Mughal bureaucracy. Also, the restrictions imposed on the Jagirdars[37]

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34. Khan, op.cit., p.40.

35. ibid.

36. ibid.

37. The Jagirdars were supposed to collect the land revenue for the king. Contradictions developed between them and the ruling authorities, mainly because of the restrictions imposed on the former. They had to compensate for the loss or trace the culprit in robbery cases; moreover, their Jagirdari was not hereditary and was assigned for not more than three years.

by the Mughal emperors, the exploitation and maltreatment of the peasant mass[38] and the zamindar's inability to exact high revenues from the peasants, eventually led to a revolt against the imperial administration.[39] In order that the peasants do not cease to pay the revenue, the zamindars did not apply the rules and regulations imposed by the authorities and hence gained more support from them. The two, thus, became associated in the struggle against the Mughal administration. This sets an example of the middle classes being antagonistic to the State in medieval India. But the hostile attitude of the latter seems to have exerted no influence on the development of traditional medical systems. The two flourished well under the patronage of the mansabdars.

Our discussion on the medical traditions outside the royal courts does not end here. We shall now see how the medical practitioners received their training in that period.

It might perhaps be unreasonable to assume that the medical men at local levels received their training from the court physicians or at the State-sponsored schools. Many of them were trained locally and practised in their local community. In addition, it is also known that many Unani and Ayurvedic physicians passed on their knowledge to their sons in what was called the traditional manner[40] or in the every close, intimate

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38. Series of famines ravaging the country in medieval times, led to an exploitation of the peasants and subsequently, the latter's inability to pay high taxes further led to peasant migration — a central feature of agrarian life in Mughal India.

39. Conflict between the zamindars and the imperial authorities ensued over the formers' share in the land-revenue or surplus produce.

40. Their homes or clinics served as centres of education, thus creating a personalised didactic atmosphere.

atmosphere of the madrasas. Also, from the existence of different echelons of physicians, it can be surmised that no significant mobility of physicians was feasible from the local to the State level. It may be then deduced that the medical practitioners and training at the local level were, to a great degree, autonomous of the royal court.

The indigenous medical system, perhaps, suffered a decline when its patrons— the State and the middle classes— vanished with the advent of British rule in India.[41] In fact, this was the period during which the upper classes seem to have faced adverse consequences when the British, having acquired greater power of control, disregarded the village as a revenue-paying unit and, as remarked by Habib, "they could press upon the upper elements that had so far been favoured with lower rates. Gradually, the smaller muqaddams of the mahalwari system and the mirasdars of Bombay, the kingpins of old communities tended to be levelled with the lower strata of peasantry."[42] Also, there seems to have been a decline in the urban employment of troopers, retainers, servants and so on.[43] The latter, we know, were actively supported by the Muslim regime and the middle classes or, in Habib's words, "the previous appropriators of the surplus."[44]

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41. Contradictions in medieval society resulting in several rebellious actions by various social groups, gave way to the new imperial administration.

42. Habib, "Colonialization of the Indian Economy", Social Scientist, Trivandrum, March 1975, vol.3, pp.22-53; p. 35.

43. ibid., p.26.

44. ibid.

To sum up, one may say that the existence of the medical traditions outside the royal courts was because of the patronage it received from the middle classes who were, incidentally, antagonistic to the State, as was the case in Mughal India. An attempt shall be made in the following section to deal with some of the factors influencing the flourishing of the two systems of medicine.

## 4. Internal Factors Favouring the Co-existence of Unani and Ayurvedic Medical Systems

### 4.1 Compilation Work in the two Medical Traditions

The physicians in the medieval period were provided with facilities to set up their own clinics and were encouraged to compile medical works (A list of the important works has been shown in Appendix-II). It appears that the medical practitioners, as Zahuri asserts, had made it a practice to gather their life-long experiences in book form to present as a gift to the reigning personages. Their topic was mostly the way of treatment — that is, to determine the effects and qualities of herbs and medicines on various diseases, their uses— and then to present their results and outcome, including the patients' condition and medical history.[45] The period was then marked by an increase in the number of compilations,[46] perhaps mistaken for new scientific

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45. A.W. Zahuri, "Development of Greco-Arab Medical Literature in India," Studies in History of Medicine, New Delhi, June 1979; vol. III, no.2, pp. 125-145; p. 125.

46. A. Rahman, "Science and Technology in Medieval India - Introduction to a Bibliography of Source Material in Sanskrit, Arabic and Persian," Cressida Transactions, Calcutta, 1981, vol.1, no., pp. 187-198; p.195.

achievements. As a matter of fact, the physicians carried out experiments with the locally available medicinal herbs and dwelt upon these plants— their therapeutic effects—and the succeeding generations of these just made additions to what their ancestors had left. The literature on Unani medicine thus continued to grow during this period.[47] Bringing in Kuhn's notion of scientific change[48], one could possibly remark that the physicians, instead of attempting to solve puzzles (in this context, the medical problems), which, in turn, would have led to more explicit articulation of the paradigm and perhaps also to a change in the paradigm[49] (that is, the traditional medical system), were occupied with a mere compilation of medical works, except a few additions of new therapeutic agents based on their experience. Consequently, there was no significant breakthrough or discovery which would have necessitated the restrengthening, let alone replacement, of the older paradigm to assimilate these new concepts and beliefs. The medical practitioners then failed to come up with new research findings in the field. This was true not only of Unani but also of Ayurveda. The latter, though emerging as a science in the sixth century B.C., was reduced to compilation work by the physicians of ancient and medieval periods. The original texts on ancient medicine, we find, were redacted by several learned men who took to increasing the

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47. T. Siddiqui, "Unani Medicine in India during the Delhi Sultanate," Studies in History of Medicine, New Delhi, Sept. 1978, vol.II, no.3, pp. 183-189; p. 184.

48. T.S. Kuhn, The Structure of Scientific Revolutions, 1962, Chicago, Chicago University Press.

49. Paradigm includes the law, theory etc. based on the past achievements of a scientific community. It serves as a model for solving puzzles. As long as it does so, there is no change in the paradigm. But if it ceases to find solution to a set of puzzles, it is replaced, in whole or in part, by a new one, thus leading to, what Kuhn calls, a revolution in science.

Ayurvedic and Unani pharmacopoeia simply by adding therapeutic agents to the medical compendia on the basis of their experience in the field.

The foregoing account points to one of the internal factors favouring the co-existence of the traditional medical systems — that of an increase in the number of medical texts, with the increase in the ad hoc accretions added to these and the absence of any theoretical concern.

## 4.2 Dissemination of Scientific Knowledge in the Ayurvedic and Unani Medical Traditions

Two systems of training are known to have existed in ancient India. One of these called the Brahmanic system, has been described by Zimmer[50] who states that the knowledge of medicine in the early ancient period was transmitted to generations, not by colleges or institutions but through the individual training by skilled practitioners; the latter belonged to the priestly caste regarded as an infallible authority. This system of imparting medical knowledge was existent in the Vedic period when the entire society was dominated by the privileged class — the priests alone had the right to learn the Vedas.

The other system involved training through Universities, as was the case at the time of Buddha.[51] It is also referred to as the Monastic system. We have a mention of the Monastic system in the Buddhist works. To cite an instance, Jivaka, a

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50. H. Zimmer, Hindu Medicine, 1948, Baltimore, John Hopkins University, p. 75.

51. P. Kutumbiah, Ancient Indian Medicine, 1962, Madras, V. Abdullah, p. xliv.

contemporary of Buddha, received his education at the University of Taxila, under the preceptorship of one Atreya.

The Monastic System of training students in ancient medicine was in vogue in the post-Vedic period when there was a change in the entire methodology of medical science (as discussed in the preceding chapter) and students had to be trained accordingly. A similar shift in the manner of disseminating scientific knowledge was observed in Unani medicine during the medieval period. The practice of Greco-Arab medicine in early Muslim rule was, many a time, a family occupation. That is, the knowledge of medicine was transmitted from the teacher to the student who invariably happened to be his son.[52] It was thus practised through generations from father to son as is also shown by the recorded evidence of many families of hakims whose successors even to this day are engaged in Unani practice.[53] One such genealogy of hakims is mentioned in a medical text entitled Imtihan-ul-alba-le-quafat - il - al - tiba.

In the late medieval period, as seen during the reign of Akbar, several people came to India to study medicine under the noted physicians to the king. There is an evidence of the descendants or heirs of physicians practising Unani medicine in some clinics during the Mughal period for four to five generations continuously.[54] We are also told that initially, there were no

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52. Keswani, op.cit., p. 61.

53. ibid.

54. A.H. Israili, "Education of Unani Medicine during Mughal Period", Studies in History of Medicine, New Delhi, Sept. 1980, vol.IV, no.3, pp. 177-182; p. 180.

established schools of Unani medicine and each hakim had a few students to be trained in the field. The process, however, created an intimate relationship between the teacher and the taught. The physicians' clinics perhaps served as centres of education.

It is believed that a few medical schools were set up by Firoz Tughlaq who actively patronised medical education.[55] Some more schools of medicine and the madrasas for education in Unani medicine were later established by the Mughal emperors. Regular institutional training, however, began in 1883 with the founding of Madrasa Tibbiya by one Hadhiq al-Mulk Hakim Abd al - Majid Khan,[56] at Delhi. This was followed by a subsequent increase in the number of institutions of Greco-Arab medicine.

It is now clear that the two medical systems were similar in the manner of dissemination of scientific knowledge which probably favoured the co-existence of medical traditions.

### 4.3 Humoral Theory in the Ayurvedic and Unani Medical Systems

The theory of body humours, which occupied a central place in the Unani and Ayurvedic systems, is yet another factor influencing their co-existence. Practitioners of the two attempted to correlate the proportion of humours to conditions of health and disease. Also, health was believed to depend upon the

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55. A. Jalil, "The Evolution and Development of Greco-Arab Medical Education," Studies in History of Medicine, New Delhi, Sept. 1978, vol.II, no.3, pp. 190-197; p.195.

56. ibid., p. 196.

equilibrium and normal blending of the humours. Likewise, an imbalance or a disturbance in these was said to result in the impairment of health.

The humoral theory of Unani medicine, it is stated, supposes the presence, in the body, of four humours, namely, blood, phlegm, black bile and yellow bile, each possessing a particular quality of heat, coolness, dryness and humidity - also called the temperaments. The drugs utilised by Unani medical practitioners are classed according to the temperaments so as to restore the temperamental disturbance to its original equilibrium. The theory, however, served as a basis for the diagnosis and treatment of diseases by the practitioners of Greco-Arab (Unani) medicine. Diagnosis was done on the basis of pulse examination too. Any prominence or pulsation of blood vessels was considered an important symptom of pathology. Similarly for Ayurveda, body functions were said to be regulated by the humours but here the difference lay in the number of humours recognised by the two classes of physicians. While on the one hand, Indian medicine was based on the trihumoral theory, Unani medicine, on the other, developed the tetrahumoral hypothesis. The latter was framed on the ancient Greek medical concepts of Hippocrates who held that the essence of matter is to be found in the four primary elements— fire, water, air and earth (the essential constituents and the working principles of the body, according to Unani system, can be classified into seven groups, as shown in Appendix - III).

The two medical systems then appear to be similar in several respects— regarding the system of imparting education,

the mere compilation work by eminent physicians and scholars and lastly, the system of therapeutics based on the humoral theory. In fact, the only achievement of medical science in ancient and medieval periods was the compilation of medical treatises. To quote Siddiqui, "hakims of the various parts of India produced a large number of books on the various branches of medical science on the basis of Unani or Ayurvedic medicines and on the basis of their experience of medical cases."[57] Probably, this was a sequel to lack of regular institutional training during the period. Even for Unani medicine, the system of education and training centered around the preceptor - student relationship which, no doubt, called for training in an intimate atmosphere. Since the homes or clinics of physicians served as centres of education, there was hardly any interaction and infusion of new ideas in the two systems. In this connection, Siddiqui comments that the hakims in medieval India probably thought that the Greek concepts, which were supported by Arabic medical writers before its introduction here, were unassailable.[58] This is one reason which, we can say, possibly accounted for the encouragement of translation and composition work by the ruling authorities, resulting in no significant breakthrough in medical science.

5. Concluding Remarks

The aforementioned facts shall lead one to infer that indigenous medicine, including Ayurveda, did receive support

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57. M.Z. Siddiqui, op.cit., p. 272.
58. ibid., p. 273.

from the medieval Indian State which was also true of the ancient period. Patronage extended to Ayurveda in the previous centuries is also evident from the fact that the various branches of it had developed considerably, especially under the Gupta rulers for which reason the period was often regarded as the best era of Hindu medicine. The period was also marked by a continuous redaction and renovation of old medical texts and also by the fact that Ayurveda enjoyed more prestige and flourished well with the support it received.

We are also told that the progress of Ayurvedic system was hampered by religious ideology in the ancient period. But we find that notwithstanding the earlier opposition by orthodoxy to Ayurveda, the tradition was accepted by the State and by the orthodoxy, too, in later years. The medieval period also witnessed the acceptance of the two medical traditions by the State. In the case of Unani, particularly, there is no evidence of an incorporation of religious or magical elements despite which no significant advancement took place in the medical science either.

Perhaps, it is too early a stage to make any pronouncement on the reasons for the stagnation of Indian medicine in the ancient and medieval periods. But from what has been discussed so far, one can draw certain tentative conclusions. Firstly, the simultaneous flourishing of Unani and Ayurvedic medical systems in medieval India was not always because of State patronage. Secondly, the two systems of medicine were able to co-exist as a result of their internal similarities so that one system did not

threaten another. Thirdly, there was no significant breakthrough or development in medical science even though State patronage was extended to the two medical systems. Fourthly, the fall in the positions of some practitioners of indigenous medicine was not only because of the downfall of Mughal empire but also because of the liquidation of their patrons at local levels, which in this case were the middle classes. This threw the practitioners of indigenous medicine into a state of chaos and into a period of uncertainty. The above fact may lead one to put forth yet another contention. That is, it is not so much the lack of State support but the lack of clients that is important for an understanding of the decay and diminished prestige of indigenous medicine. Finally, the stagnation of ancient medicine was made apparent with the introduction of western medicine into India, and the great strides that medicine made in the West prompted a few practitioners of traditional medicine to question the basic assumptions of Greek and Indian medical systems. In 1878, Hakim Afdal Ali, in his 'Jamiush - Shifaiya', challenged the theories of Greek medicine and even remarked that most of them were based on wrong presumptions.[59] Following him, one Musihul - Mulk Hakim Mohammad Ajmal Khan, realising the defects of the same, made every effort to reform it. He established a department of research on Indian drugs at the Ayurvedic and Unani — Tibb College founded in 1921 and brought about considerable changes in the medical curriculum. After his death, the Institute of History

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59. ibid.

of Medicine and Medical Research continued to research on the Indian pharmacopoeia utilising the scientific methods adopted in the West.[60]

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60. ibid.

# CHAPTER IV

# INDIAN MEDICINE DURING BRITISH RULE

# CHAPTER IV

## INDIAN MEDICINE DURING BRITISH RULE

It is widely known that the British did not support Ayurvedic medicine[1] but that was not the initial British reaction to Ayurveda. In the following pages, we shall try to show the various phases in the colonialists' evaluation of Ayurveda. It is also commonly believed that the British opposition to Ayurveda stems from the imperialist hubris— a fact which cannot be easily discounted. But we believe that it is necessary to appreciate some additional factors as well which may allow us to understand more comprehensively the considerations that went into the downgrading of Ayurveda by the British. These additional factors, we believe, concern the initial, and their growing, differences between the development and practice of British - borne western medicine and indigenous medicine. After all, we must recall, with the Mughal ascendancy over India, Ayurveda was never looked down upon. In our earlier chapter, we hypothesized that this was, perhaps, because the paradigm and practice of medicine in Unani and Ayurveda were similar. In writing the following pages, we are burdened by a doubt. Did Ayurvedic medicine really stagnate during British rule, or was it because of the alternative system of medicine brought by the British with its dynamic scientific potential that Ayurveda for the first time was seen as stagnant?

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1. Banerji, 1979, op.cit.

## 1. British Reaction to Ayurveda

After the death of Ayurangzeb in 1707, India became an arena of political struggle among the Mughal successors, the Persian adventurers, the Afghan leaders, the Marathas and the Sikhs. The chaotic and internecine conditions which thus ensued after the disintegration of Mughal empire favoured the intervention and conquest by the British and the French. It was after the battle of Plassey in 1757 that the British emerged as the major power.

### 1.1 Initial Support to Ayurveda

It is said that the first two decades of the nineteenth century did not witness any significant change in the attitude of the British to Indian medicine. Stated simply, the British did not, initially, intervene in the then existing traditional medical system and, in fact, appointed Indians as subordinate health workers in hospitals manned by British physicians.[2] Those attaining professional skill working with the latter, were later attached to regiments and civil stations as 'Native Doctors'.[3] Even the East India Company, it is believed, hired some local people as its assistants and gave them elementary training in western medicine.[4] In fact, indigenous physicians were employed by the British as early as 1690 and by the year 1762, the Company had employed as many as nineteen native doctors; the vaids also

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2. B. Gupta, "Indigenous Medicine in Nineteenth and Twentieth-Century Bengal" in C. Leslie (ed.), op.cit., p. 369.
3. ibid.
4. Keswani, op.cit., p.65.

found employment with the Company in the Madras Presidency.[5] According to Crawford[6], practitioners of the latter were also employed on the cruisers of the Bombay marine in the beginning of the nineteenth century. In the same period, an institution of western medicine was expanded to accommodate more Indians to be trained as apothecaries.[7] The increasing demand for native practitioners, coupled with the appreciation of the treatises on Ayurvedic medicine in Sanskrit language by the court of Directors of the East India Company, perhaps, created a congenial atmosphere for the establishment of a separate medical school. Thus in 1822, the British laid the foundation of a school[8] for native doctors in Bengal. Perhaps, this was the first organised effort by the government for the communication of medical instructions to the natives[9] which certainly went in favour of the traditional medical system of India. It is also said that the British administrators advocated the inclusion of modern advances in the curriculum of Ayurvedic medicine. Students trained at the

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5. D.G. Crawford, cited by C. Leslie, "The Professionalization of Ayurvedic and Unani Medicine" in E. Friedson and J. Lorber (eds.), Medical Men and their Work: A Sociological Reader, 1972, Chicago, Aldine, p.47.
6. ibid.
7. ibid.
8. A distinction shall be drawn between medical colleges and medical schools. The distinction applies clearly after 1860 with the establishment of Indian universities and the regularisation of recruitment to medical services to give formal qualification a central place. 'Colleges' then referred to institutions preparing students for entry to the Indian Medical Service or to the British Royal Colleges while 'Schools' referred to shorter courses aimed more closely at employment prospects in the subordinate medical services (Roger Jeffery, personal communication).
9. Anonymous, "Hindu Medicine and Medical Education", Calcutta Review, 1865, Calcutta, vol. 38, no. LXXXIII, pp. 106-125; p.115.

Native Medical Institution were, according to the orders of the then Governor-General, to be appointed in the Native Corps.[10]

Indian medicine and its practitioners then continued to flourish during British regime and in 1824, a Sanskrit College was established at Calcutta where instructions in medical science were given through the medium of Sanskrit. In 1827, more teachers were appointed to lecture in Sanskrit to students of Ayurveda and to acquaint them with the works of the eminent medical authorities — Caraka, Susruta, Vagbhata and others. The medical curriculum introduced here included parallel instructions in Indian and Western medical science[11] which again is a corroboration of the flourishing of Ayurveda during the colonial era. Rudimentary treatises on anatomy, surgery and medicine were translated from English into Indian vernaculars and medical instructions based on these were given along with those on ancient works.[12] Thus it can be surmised that the British began their rule not by expunging Indian tradition — medical tradition in this context— but by enabling it to flourish well. The friendly co-existence of the two medical systems, however, did not last very long as will be evident from the discussion that follows.

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10. Medical Proceedings, 2nd Jan. to 26th Feb., 1835, Part II, no. 232, p.97, NAI.
11. B. Gupta, op.cit.
12. Anonymous, op.cit., p. 115.

## 1.2 Abolition of Sanskrit Medical College

In 1833, Lord William Bentinck, the then Governor-General of India, appointed a committee, called the Public Instruction Committee, for the purpose of enquiring into the conditions of the then existing medical education and training. It was also charged with the task of suggesting measures that would be expedient to adopt with a view to the better instruction of the people, including the arts and sciences of Europe. The committee then summarised the defects of the Native Medical Institution and argued that it was not properly organised. It complained that the tuition, period of training and examination of Ayurvedic medicine were inadequate and also that courses on practical anatomy were non-existent.[13] In 1835, in accordance with the committee's suggestion, Bentinck passed an order announcing the abolition of the institution at Calcutta. Medical classes at the Sanskrit College were then discontinued in the same year.[14] Bentinck's order of 1835 also decreed that a new medical college be established for instructing Indians on the pattern adopted in Europe and that instructions should be given through the medium of English which, incidentally, became the court language in the same year. This alteration in the medium of instruction also followed, what Keswani says, Macaulay's vehement and shallow attack on Sanskrit literature and his declaration that the content of higher education should be western-oriented, and that the language of instruction should

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13. R. Jeffery (personal communication).
14. Keswani, op.cit.

be English.[15] In the words of Jaggi, "this was the end of the first attempt at synthesis of the Eastern and Western systems of medicine in India for the benefit of the Indians; this also ushered in an era of official patronage and recognition of the western system of medicine."[16] This assault on tradition and an indigenous modes of thought was enough to engender a reaction amongst the Indian nationalists and spurred a species of cultural nationalists which made several attempts at resuscitating Ayurveda by political propaganda and by institutional support after provincial governments were set up.[17]

After 1835, as Gupta[18] claims, the British policy was to push out native medicine and patronise and encourage teaching and practice in Western medicine alone. Perhaps, it is too early to take a decision on the validity of this view but it should not be wrong to claim that there is evidence of the utilization of indigenous practitioners by the colonialists, based on their recognition that Ayurveda was considerably popular in rural areas. The practitioners, it is recorded, were employed through various schemes introduced in different regions of the country[19] and one such scheme is reported to have been introduced

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15. ibid., p. 68.

16. Jaggi, "Indigenous System of Medicine during British Supremacy in India", Studies in History of Medicine, New Delhi, Dec., 1977, vol.1, no.4, pp.320-347; p. 327.

17. K.N. Udupa, "The Ayurvedic System of Medicine in India" in K.W. Newell (ed.), Health by the People, 1975, Geneva, WHO, p. 54.

18. B. Gupta, op.cit., p.370.

19. Jaggi, Dec. 1977, op.cit.

in Punjab as early as 1867.[20] Yet another clue to the recognition of vaids and hakims comes much later and is provided by the 1938 Act of Bombay which gave the indigenous practitioners the same rights as the western doctors;[21] the former were to be utilised to extend medical services in rural areas. But this concession may have been made under political pressure from the nationalists.

Besides, we are also told that during the late nineteenth century, there was a proliferation of western medical schools and colleges. The very fact that training in the latter[22] ensured the Indians a State-recognized status and better chances of entering into the service of the State, the railways and the like, indicates the changed attitude of the British to Indian practitioners. The native physicians, certainly could not compete with those from the elaborately-equipped colleges of western medicine, the latter of which were gradually gaining popularity because of the huge funds employed in granting scholarships and distributing free medical books for its publicity.[23]

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20. Indian Medical Gazette, cited by Jaggi, ibid.

21. Jeffery, "Recognizing India's Doctors: The Institutionalization of Medical Dependency (1918-39)", Modern Asian Studies, Great Britain, 1979, vol.13, no.2, pp. 301-326; p. 320.

22. Those trained in the modest Tols of the kavirajas were recognized as quacks; this probably acted as a barrier to their entry into the service of the State.

23. B. Gupta, op.cit.

Better chances of seeking employment after training in allopathic medicine were enough to stimulate the orthodox kavirajas, who had previously been averse to studying occidental medical science, to send their sons to colleges of western medicine. Despite an emphasis on the study of anatomy and surgery which, otherwise, would have offended against high caste prejudices, the higher castes of Bengal, especially Brahmins, were found to comprise a majority of the students at a college of western medicine, as was the case at Dacca.[24]

Indian physicians during British supremacy were then categorised into three classes. Students trained in western medical colleges were designated as First-Class Native Doctors; those trained in the short-lived college founded in 1822 and still another category comprised of physicians trained in hospitals, were enrolled as Second and Third-Class Native Doctors, respectively.[25] The existence of different classes gave rise to a series of new bureaucratic statuses occupied by practitioners of indigenous medicine, some of whom gained knowledge of European medicine with, what Leslie[26] calls, various degrees of eclecticism. These physicians possessing a knowledge of European medicine, however, claimed a superior status to other indigenous practitioners as a result of which conflicting tendencies developed between the two - the orthodox

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24. A. Seal, The Emergence of Indian Nationalism, 1968, Cambridge, Cambridge University Press, p. 120.
25. B. Gupta, op.cit.
26. C. Leslie in Friedson and Lorber (eds.), op.cit., p.48.

Hindus and the other vaids, the former among whom, according to Leslie,[27] were supposed to practise Ayurveda as a philanthropic avocation but increasingly adopted medicine as an occupation. The founding of a Native Medical Society in 1832, with the object of confining medical practice to vaidyas alone, stands as the earliest record of the association of indigenous practitioners[28] which probably diverted them from acquainting themselves with European medicine.

## 2. Indigenous Medicine sans Official Patronage

Despite the increase in the number of colleges of western medicine, Indian medicine continued to be taught and practised in the traditional manner. Practitioners of Ayurveda[29] trained young aspirants in their homes or what were called, in Bengal, the Tols.[30] The people of India, however, continued to profess faith in indigenous medicine and it is believed that they continued to prefer a kaviraja to an allopathic doctor, probably because the kaviraja was the only person who was accessible. After 1835, the western medical system became firmly established in India and continued to recline government patronage in the Indian States.

A renowned kaviraja called Gangadhara Ray is credited with having contributed to the flourishing of indigenous medicine in British India. He is known to have trained several students

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27. ibid.
28. Crawford, cited by Leslie in Friedson and Lorber (eds.), ibid.
29. They were orthodox Hindus or kavirajas, who had an aversion to using foreign medicine, probably because of religious prejudices.
30. G. Mukhopadhyaya, History of Indian Medicine, 1962 Calcutta, University of Calcutta Press, vol. II, p.21.

in his Tol at Berhampore and written Sanskrit commentaries on Ayurvedic texts, the most famous being that of Caraka, called Jalpakalpataru.[31] Following him, one Gangaprasad Sen of Calcutta is also said to have contributed to the preservation of the traditional medical system. According to Gupta, the latter tried to compete with western medicine by exporting Ayurvedic medicines to Europe and America. Besides competing in the market place, the kaviraja began to imitate the pattern of western physicians; he introduced consultation fees which either equalled or surpassed those of British physicians and also drew public attention to Ayurvedic drugs by publicising them.[32] Several generations then followed the two kavirajas in supporting the native medical system. It shall be pointed out that the establishment of medical colleges in accordance with those in Europe could not supplant indigenous medicine which thus continued to thrive at the hands of the indigenous practitioners. In 1919, Bills were moved in the Legislative Assemblies in support of the same and for rendering financial aid in setting up schools and colleges of indigenous medical systems. Indian practitioners then continued to raise issues on the employment of vaids and hakims by municipalities and turned to seek pecuniary aid from the government to institutions based on indigenous medical science.[33]

The establishment of the Gobinda Sundari Ayurvedic College in 1922 by Kaviraj Ramchandra Mallick and the Viswanatha Ayurvedic College in 1932 by Kaviraj G. Sen, with the idea of

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31. B. Gupta, op.cit.

32. ibid.

33. Delhi Records 6, Home Department Proceedings, July 1919, no.26-51A, Medical Branch, NAI.

educating physicians in indigenous as well as western medical science, should suffice to indicate the Indian physicians' gradual acceptance of the superiority of western medicine in order to improve their own system of medicine.

In 1878, Indian physicians opened a dispensary in the city of Calcutta and propagated knowledge of Indian medicine through inexpensive books on the same.[34] They highlighted the importance of Ayurvedic pharmacopoeia and founded several pharmaceutical concerns to manufacture and sell indigenous drugs. This, however, enabled the kavirajas to earn considerable wealth so that they were at one time, what Gupta claims, "among the richest men in the country."[35]

### 3. Reflections on the Withdrawal of British Support to Ayurveda

It is possible, as we said earlier, that Ayurveda was looked down upon by the British simply because of imperialist hauteur. But as medicine is itself such a practical body of knowledge, hauteur must rest on some very practical considerations if a body of knowledge dealing with such a crucial area as health is to be looked down upon—almost proscribed. We said that in ancient India, the advocates of Brahmanical orthodoxy tried to downgrade Ayurveda, but did not attempt to banish it. We also know that some of the renowned ancient

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34. ibid.
35. ibid.

Ayurvaids were patronised by royal courts. But if in British India, Ayurveda was not considered to be a suitable and reliable medical compendium of knowledge, then did the British have an alternative ? Of course they did. But was the alternative such that it exposed Ayurveda as a defunct or at least a stagnant system of medicine ? The argument here is that it probably did and this gave further ammunition to fuel and rekindle the basic cultural hubris that most imperialists exhibit.

It is known that the ancient theories, on which the Ayurvedic system of medicine was based, little coincided with the knowledge of the British for which reason, it is said, the system did not carry much favour with the Europeans.[36] But this is not to label Ayurveda as wholly unscientific and according to Leslie,[37] the indigenous medical system involved a rational use of naturalistic theories to interpret empirical observations and also utilised efficacious methods for promoting health and curing illness. But if judged by other criteria such as the standardisation of techniques or the employment of sophisticated experimental methods, the system may be less scientific in comparison with western medical science.[38]

It should not be too difficult a task for us to judge the reasons for denial of political support to Ayurveda. These

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36. Jaggi, Dec. 1977, op.cit., p.320.
37. Leslie, "Introduction" in C. Leslie (ed.), op.cit., p.7.
38. ibid.

shall certainly be dealt with in the following pages but at this stage it is significant to note that the indigenous system of medicine was at times labelled as "quaint" by the advocates of western medicine;[39] as a sequel, several proposals in favour of establishing Ayurvedic colleges were rejected as impracticable and in 1926, the possibility of claiming a superior or even an equal status for the indigenous systems of medicine, in such subjects as surgery, bacteriology, parasitology and research in general, was ruled out by British administrators.[40] The western system of medicine was said to be founded upon an accurate knowledge of anatomy, physiology and pathology for which reason it was suggested by Pardey Lukis, the then Assistant-Surgeon of Burma, that Ayurvedic system must sooner or later be superseded by the medical system of the West.[41]

This is just a brief account of the basic distinction between the two. More of it is discussed below.

3.1 System of Medical Education

The first formalised training in British India[42] seems to date from 1812 prior to which European surgeons had trained assistants on an apprenticeship basis, some of whom had later

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39. Delhi Records 6, Home Department, Proceedings, July 1910, nos. 98-99, Medical Branch, NAI.

40. Education, Health and Lands, Sept. 1926, nos. 26-31A, Health Branch, NAI.

41. Delhi Records 6, Home Department, Proceedings, Aug. 1912, Nos. 190-8, Medical Branch, NAI.

42. It was in 1812 that a proposal was made for medical training at the Calcutta Presidency General Hospital and the General Dispensary (R. Jeffery, personal communication).

been recruited to subordinate medical services.[43] The manner of disseminating knowledge of ancient medicine was one of intimate relationship between the teacher and the taught in the Tols of kavirajas where the only medical topic taught was internal medicine or drug therapy. This, however, did not call for any sort of clinical training in medicine. In contrast, instructions in western medicine were given in the hospitals and dispensaries established by the British. Though there was a steady growth in the number of colleges of medicine, modelled on the ones in England, only after 1835, initial training in hospitals did attach importance to the practical instructions in medicine. The characteristic defect of Ayurveda in training and education perhaps incapacitated the Ayurvedic medical practitioners from being on the alert for new diseases and new remedies or modification of therapeutic measures. The British apparently thought so.[44] But there are other factors as well, discussed below.

3.2 Medium of Instruction

It is known that members of the committee appointed by William Bentinck in 1833, were divided on whether education, in general, was to be imparted in European languages or according to Indian vernaculars. The adherents of the former were classed as Anglicists and of the latter as Orientalists. The controversy was, however, settled in favour of the Anglicist school, of which

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43. Crawford, cited by Jeffery (personal communication).

44. Anonymous, op.cit., p. 121.

Lord Macaulay[45] was the most outstanding protagonist. In 1829, in a letter to the government, it was made clear that the admitted policy of the British government was to render its own language gradually throughout the country.[46] Bentinck also stated that the chief aim of the educational policy should be to promote a knowledge of European literature and science and that all the funds appropriated for the purpose of education would be employed in imparting education in western literature and science through the medium of English. The subsequent period then witnessed the introduction of English as the medium of instruction in all European sciences.

It appears that Oriental learning was ridiculed and, perhaps, considered inferior to western learning, as is also clear from Frazer's contention that the historical information which had been collected from the books written in Sanskrit language was less valuable than what was to be found in the English texts.[47] We may point out that it is the content of the text that increasingly revitalizes or adds to one's knowledge and not merely the language in which it is composed. The considered supremacy of English language and the over-riding importance attached to English literature and science by its advocates probably prompted

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45. He was appointed President of the Education Committee in 1834 after which he urged upon the then Governor-General of India, the wholesale adoption of the English policy.

46. H.R. Mehta, A History of the Growth and Development of Western Education in Punjab (1846-1886), Punjab Government Record Office Publication, p. 13-14.

47. R.W. Frazer, British India, 1974, New Delhi, Ashish Publishers, p. 215.

the British to discontinue Ayurvedic classes in 1835 when they felt the urgent need to substitute the entire system of education by the one adopted in Europe.

The insistence on English as the medium for all recognized forms of knowledge in itself incapacitated indigenous forms of science or medicine from attaining acceptance and recognition. By making English as the medium of instruction, the British automatically made it well-nigh impossible for training in indigenous medicine to follow a format that would meet their approval. This then was imperialist hauteur at its best. But it is also possible to argue that the British could have made an exception in the case of Ayurveda if the science of Ayurveda had appealed to them, in which case the British move on the medium of instruction was based on the belief that Indian medicine had nothing of consequence to offer them. This is probably an overstatement, but it is not unlikely especially when one notes the vast gulf between Ayurveda and Western medicine, a gulf that was getting wider everyday so that by the turn of the twentieth century, many Indians too believed that it could not be breached.

### 3.3 Ayurveda and Western Medicine— Divergent Systems

The discipline of ancient medicine was, by and large, similar in most of the countries of the world. The practice of dissection for purposes of anatomical knowledge, in general, was lacking or, to be more precise, prohibited by the ruling authorities of these ancient systems of medicine.

But in the late nineteenth and twentieth centuries, western medicine moved a step further when it made significant strides in the medical field which, perhaps, seem to have altered the style and efficacy of medicine in the West. We shall start with the sixteenth and seventeenth centuries to trace the continuing developments in western medicine. Dramatic discoveries that seem to have changed the style of medical practice may be summarised under various heads, namely,

a. use of scientific instruments

b. advances in the science of anatomy and surgery, especially in the field of gynaecology and obstetrics

c. development of nosology.

a. Western medicine, as early as in the sixteenth century, and more so in the nineteenth century when it came to India, was characterised by the use of instruments which enabled a more acute form of diagnosis. By these instruments, qualitative judgments could be broken down to manageable quantitative measures, allowing greater reliability and uniformity in both its teaching and practice. For instance, prior to the thermometer, diagnosis was purely qualitative[48] in that the state of a patient was described as 'feverish' and changes in the state accordingly labelled him as less feverish or more feverish. Similarly, other oft-used instruments like the minute-watch, the stethoscope and the microscope helped significantly in the

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48. A Wolf, A History of Science, Technology and Philosophy in Sixteenth and Seventeenth Centuries, 1968, Gloucester, Peter Smith, Vol.II, p.431.

development of western medicine. The significance of these instruments is not to be seen simply in terms of discoveries but also to the extent they helped practising physician to diagnose and categorise ailments more effectively.[49]

b. Anatomical studies are stated to have begun as early as sixteenth century when physicians relied heavily on performing dissections to further their knowledge of diseases.[50] It was through such anatomical studies that Ambroise Pare (1510-90) was able to discuss in detail the treatment of fractures and dislocations. Yet another progress marking anatomical studies was the technique of amputation and the method of treating fractures by Francois Chopart (1743-95).

But for long, even in the West, the study of anatomy and practice of dissection was not part of the medical curriculum. It was carried out in the halls of barber-surgeons who insisted on their prerogative of dissecting human bodies. The ghastly practice of exhuming bodies from the graves and purveying corpses to the teachers for purposes of dissection, virtually came to an end in 1832 when licenses were issued to permit the lawful acquisition of bodies. The series of events which led the authorities to legitimize this practice, is worth mentioning here.

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49. D. Gupta, "Knowledge and the State: A Critique of Practical Science," Journal of Higher Education, Delhi, 1982, vol.7, No.3, pp. 189-199.

50. L.S. King, The Medical World of the 18th Century, 1958, New York, Robert E. Krieger, p. 264.

To begin with, in 1534, study of anatomy was considered indispensable to the diagnosis of disease when Jean Francois Fernel tried to delve into the aetiology of diseases by physiological and pathological experiments. The illegal practice of dissection, however, continued until the increasing wars during the early nineteenth century aroused a need for more surgeons for the care of the troopers. Moreover, the rapidly increasing population could not be served by the few doctors that were available. In 1800, the Royal College of Surgeons was then established to meet the urgent needs. On the other hand, the Apothecaries Act of 1815 demanded an alteration in the system of training in medicine (demanded clinical experience). It produced a new class of practitioners who began to agitate for reform in medical education. Since the apothecaries were rivalled by untrained grocers who claimed the same status as that of the former, alteration in training served to avoid any such encumbrance by grocers. Their demand was partly met by the Anatomy Act of 1832. Thus a five-year apprenticeship including clinical experience in anatomy and physiology, formed a necessary prelude to the licensing of apothecaries. In 1816, Charles Hastings laid the foundation of a Surgical Society and demanded an advancement in the social status of doctors and also a medical reform for which purpose a meeting was convened in 1832 and in the same year, there was an announcement of the legalisation of the study of anatomy. This may have led Bentinck to order a revision of medical education in India, too, in the following year. Since anatomy was non-existent here, it seemed a good time

as any by the British to substitute Indian medicine by European medicine.

Besides anatomical developments, mention shall be made of advances in surgery too. There is a record of ovariotomic operations being performed as early as 1809 when Ephram McDowell of Virginia was successful in removing ovarian cysts from women patients. In the later part of the century, James Marion Sims earned a high reputation for his successful operative treatment of vesico-vaginal fistula.[51] Likewise, Robert Lawson Tait, in the later half of the nineteenth century, achieved a remarkable success in performing ovariotomy. He insisted on absolute cleanliness, or asepsis, which was, no doubt, the cause of his achievement.

Another important branch of medical science called obstetrics, was then to be put on a scientific basis. Earlier, the practice of obstetrics had been the work of mid-wives. But development in the type of instruments and techniques of obstetrical operations necessarily called for the assistance of surgeons specialised in the field. Hendrick Van Deventer (1657-1721), a leading obstetrician of the eighteenth century, made a worthwhile study on the variation of the female pelvis and their effect upon labour. Similarly, the benefit following the work of John William Ballantyne (1861-1923) on ante-natal pathology and his pioneering efforts in establishing clinics

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51. Chassar Moir, cited by D. Guthrie, A History of Medicine, 1958, New York, Thomas Nelson, p. 301.

for the care of the expectant mothers and the unborn child, is incalculable.

The growing emphasis on post-mortem examination facilitated disease diagnosis by disclosing the structure and relation of various parts or, in paraphrase, by contributing to anatomy and physiology and secondly, by exposing the real site of the disease, thus rendering safer the methods of treatment and making prognosis more accurate. In other words, study of morbid anatomy facilitated the quest for effective methods of combating diseases. This was an important contribution of anatomical studies to, what was called, Pathology, pioneered by Giovanni-Battista Morgagni (1682-1771). He demonstrated the importance of morbid anatomy to medical practice and described various forms of tumour and lung diseases through autopsy dissections[52] and gave a worthwhile description of carcinoma in the liver. The study of pathological anatomy gradually came to be enriched by the subsequent work of Marie Francois Xavier Bichat (1771-1802) who is credited with founding the science of histology. His discovery was, perhaps, an improvement upon the previous work by Morgagni, the former among whom transferred the site of diseases from organs to body tissues. But further advances in the field were the result of discovery of cells by Virchow for whom pathological changes affected cells rather than tissues.

c. Nosology was another branch on which was based the knowledge of medical science. A great exponent of the new

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52. Guthrie, ibid., p. 245.

progress was Thomas Sydenham (1624-89) who carried out a study of the natural history of diseases. Incidentally, he was one of the first to prescribe iron for the cure of anaemia and the first to popularize the use of the cinchona bark in the treatment of ague or malaria, so prevalent a disease in England during the eighteenth century.

Later in 1714, attempts at classifying diseases were continued by Fernel and thereafter cellular pathology, bacteriology opened up new developments in the field of medicine.[53] Attempts to systematise diseases received a great impetus in the middle of the eighteenth century following Linnaeus' classification of plants. Though he was not a medical man, he took to creating a similar classification of human diseases.

The development of nosology, gradual as it was, along with its indispensable handmaiden, pathology, ushered in a new style of diagnostics and treatment. Nosology helped to separate victims of one kind of disease from other (differentiation of measles from scarlet fever provides a good example of this) and this also helped in containing infectious diseases to a great extent. The abandonment of the theory of fevers totally revolutionized the art of western medical practice, not only by enabling western practitioners to specify different kinds of ailments, but also in the search for different treatments for what hitherto was often considered a similar affliction. Nosology in Ayurveda, as in other ancient medical traditions,

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53. E. Goldschmid, "Nosologia Naturalis" in E. Ashworth Underwood (ed.), Science, Medicine and History, 1953, London, Oxford University Press, vol. II, p.104.

was rudimentary if not primitive[54] and this marked another great divergence between western and indigenous medicine in both theory and practice.

Robert Koch's discovery of the vibrio of cholera in 1884 and his idea of its transmission by drinking water, are few of his noteworthy achievements which helped in the attempts made during the British period to control cholera. Innoculation, introduced on a mass scale at the turn of the century, also helped to control small-pox and efforts were made to eradicate the anopheles mosquito, the carrier of malaria, thus making a not inconsiderable impact on the native population. These developments and discoveries, we may say, contrasted sharply with Indian medicine and it was the immense advances which probably appealed to Indians as well, for which reason Ayurveda began to lose its clients.[55]

4. Ayurveda: Its Dwindling Clientele

The much written about religious prejudice did not stop the Indians from moving over from Ayurveda once the benefits of western medicine were known and once it was even remotely accessible. This, we believe, was the most crushing blow to Ayurveda and did more harm to it than all the aspersions

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54. Filliozat, op.cit., p. 107.

55. British administrators adopted means of controlling epidemics, though it is believed that such measures were confined to areas where British population was concentrated. H. Cleaver, "Political Economy of Malaria De-Control", Economic and Political Weekly, Bombay, Sept. 1976, vol.XI, no. 36, pp. 1463-1473.

caste in it by the British. The preference for western medicine today in India has been widely documented. For instance, in an inquiry conducted in Ghaziabad town, a noteworthy conclusion revealed an overwhelming preference of the villagers for allopathy, inspite of the allopaths being "aliens". In fact, the choice of a particular system of treatment was found to be related to the effectiveness rather than the mere availability of it.[56] In another study conducted in the Tumkur district of South India, the data revealed that a sizable proportion of the cases (sputum-positive cases of tuberculosis) seeks treatment in the available institutions of modern medicine.[57]

Inspite of all these differences to the Indians, indigenous medicine was known and accessible too. Western medicine for a long time was for the British only. But the clientele for Ayurveda began dwindling from around the early years of the twentieth century when even the non-elite Indians got a taste of western medicine in the moves made by colonial authorities to control mass diseases like malaria,[58] and with the gradual production of western-trained Indian doctors who set up this practice. The development of General Hospitals by the British from late nineteenth century onwards in several parts

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56. T.N. Madan, "Who choses Modern Medicine and Why", Economic and Political Weekly, Sept. 1969, Bombay, vol.II, no.37, pp. 1475-1484; p. 1483.

57. D. Banerji and S. Andersen, "A Sociological Study of Awareness of Symptoms among Persons with Pulmonary Tuberculosis", Bulletin of World Health Organization, 1963, Geneva, vol.29, pp. 665-683.

58. Cleaver, op.cit., p. 1464.

of the country, but mainly in metropolitan centres,[59] also made western medicine more accessible to Indians, and the Ayurvedic clientele, very slowly at first, began moving to western medicine.

5. Summing up

Initially, the British policy, as it appears from the above discussion, was to allow both the systems to be taught together at the Ayurvedic College but the recognized incompatibility probably influenced British attitude towards indigenous medicine; they opposed the claims of indigenous medicine to State recognition and this fell in line with their general imperial distaste for anything Indian.

It shall also be noted that though classes in traditional medical science were held at Calcutta, there was no attempt at dissecting the human body and the continued contempt for contact with human corpse failed to add to their knowledge of anatomy and surgery, the latter of which marked the touchstone of medicine in the West. The system of training in indigenous medicine which was considered obsolete and retrogressive, was an important factor on which was based the recognition that integration of the two systems of medicine was solely farcical.[60] But rejection of the plea for combining the two simply for the fear of a feeling of animosity between the two classes of

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59. R. Venkataratnam, "A History of Western Medicine in India (1664-1945)," Indian Journal of History of Medicine, New Delhi, June 1974, vol. 19, no.1, pp. 5-14; p. 5.

60. Delhi Records 6, Home Department, Proceedings, April 1916, nos. 96-99 A, NAI.

practitioners, seems implausible. In fact, this was one of the opinions on one U. Rama Rao's bill to integrate them where it was stated that followers of the western system of medicine may justly claim that, having spent a large sum of money and a long period of time in the pursuit of their professional education and having got the best scientific medical education, they should have differentiations from and preference to the followers of the less expensive and less scientific indigenous systems.[61]

The utilization and employment of indigenous medical practitioners in the early half of the nineteenth century would lead one to infer that the British administrators had no initial aversion to using indigenous medicine. But, on the contrary, denial of official encouragement and support in establishing Ayurvedic institutions does reveal their policy — also reflected in a note addressed to Charles Elliott, the then Lieutenant - Governor of Bengal, urging the claims of Ayurveda to official support and encouragement and for founding a college for teaching with a hospital attached to it. The request was not complied with, probably related to the inability of indigenous medical science to adapt to advancing physical and physiological science or of progress in general.

Looking back at what has been said in this chapter, we might conclude by saying that after the initial period of acceptance of Ayurveda by the British, the colonial rulers, after

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61. Education, Health and Lands, Proceedings, Sept. 1926, nos. 26-31A, Health Branch, NAI.

1832, moved swiftly with a series of policies which effectively derecognised Ayurveda and robbed it of further chances of extended official patronage. Doubtless, there is an element of imperialist intolerance with native systems, but as we have endeavoured to point out that the rejection of Ayurveda was based on other factors as well which may have strengthened lingering imperial prejudices. Very often, these other factors which are internal to the two different systems of science evidenced in their training, research and diagnostics, are not taken into account.

Our belief is that the passion with which nationalists and other writers condemn the British for the stagnation of Ayurveda[62] is perhaps misplaced, as Ayurveda was stagnant anyway, like other ancient medical systems. The passion was possible because Ayurveda appeared as a stagnant system for the first time with the introduction of western medicine and association in this case was mistaken for causation. The final blow to Ayurveda, however, came not with de-recognition of Ayurveda but because Ayurveda began losing its clientele to western medicine — a state of affairs which continued even during the height of the nationalist movement and independent India. Numerous policies forwarded in this period, did not succeed in resuscitating Ayurveda. What these policies were and how consistently they were put forward during the national movement and in independent India, is the subject of our next chapter.

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62. Banerji, 1981, op.cit., p. 5.

# CHAPTER V

## POLICY TOWARDS THE AYURVEDIC SYSTEM OF MEDICINE IN LATE-BRITISH AND POST-INDEPENDENT INDIA

# CHAPTER V

## POLICY TOWARDS THE AYURVEDIC SYSTEM OF MEDICINE IN LATE-BRITISH AND POST-INDEPENDENT INDIA

It is true that the British did not encourage Ayurveda and in doing so, as can possibly be surmised, imperialist hubris may have played a critical role. But we should also note the superiority of British or Western-borne medicine in surgical and anatomical studies that prompted them to discontinue lending support to Ayurveda. On the other hand, it can be realised that there was no move to ban Ayurveda by proscribing indigenously set up institutions. In fact, the stagnation of Indian medicine had started much earlier and became evident only at this stage of British rule in India.

Our discussion of the relationship between Indian medicine and the State would be incomplete without a mention of the popularity of Ayurveda. We are told that the British made no efforts to patronise traditional medical system despite which practitioners of the latter flourished and for many years only indigenous physicians were available to the people of India as western medicine was for British.

In this chapter, we shall discuss the various attempts made in the twentieth century by the protagonists of Ayurveda during the national movement and after independence and assess how far political support and State patronage did good for the recrudescence of Ayurveda.

## 1. Reaction of the Indians to British Imperialism: Rise of the Indian National Movement and Medical Revivalism

Nationalism has been one of the most potent factors in shaping contemporary societies. In India, the rise of the anti-imperialist movement was a gradual outcome of the contradictions between the imperatives of colonial policy and the basic interests of a vast majority of the people of India. Perhaps, it was this contradiction that eventuated in the so-called national movement embracing different classes and groups in India.[1] The growth of national consciousness was also goaded by the exponents of Hindu cultural nationalism who assumed that the degeneration of India and the subsequent destruction of its nationality were greatly enhanced by the inroads that western civilization had wrought upon the traditional cultural systems of the country. Since medical knowledge of the ancient Hindus was linked with the culture of the past, the move to resuscitate Ayurveda could be seen as a part of the rising national consciousness among the Indians; the movement accorded a prominent place to the revival of Sanskrit language and literature. The latter was said to represent the perennial fount from which the vernaculars of India were derived.[2] In fact, one of the basic assumptions of Hindu cultural nationalism

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1. B. Chandra, A. Tripathi and B. De, Freedom Struggle, 1972, Delhi, National Book Trust, p. 39.
2. B.T. McCully, English Education and the Origins of Indian Nationalism, 1966, Gloucester, Peter Smith, p.254.

was the belief that Hindu population constituted a religious and racial unity and the Vedas, which were believed to be the outgrowths of the Aryan intellect, were superior to anything the world had previously known.[2a] Constant efforts were then made to popularise India's heritage to vindicate the superiority of indigenous culture and tradition against the much-vaunted capitalistic civilization of Europe.[3] The feeling of cultural nationalism was so strong that the national movement was often considered synonymous with it.[4] Along with cultural nationalism emerged the economic and political nationalisms. The foundations of the movement then also lay in the fact that British rule became the major cause of India's economic backwardness. The Indians, recognizing that imperialism was a barrier to the general development, felt and bewailed the economic exploitation of the country;[5] Bholanath Chandra and Chandra Nath Bose were among the prominent advocates of economic nationalism, striving assiduously for the subversion of British policy.[6]

In addition to the economic and cultural nationalist doctrines, the Indians espoused yet another body of doctrine

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2a. ibid., p. 246.

3. D. Thorner, The Shaping of Modern India, 1980, New Delhi, R.N. Sachdev, p. 30.

4. McCully, op.cit., p. 394.

5. To cite an example, the destruction of traditional industries led to a progressive impoverishment of the peasant. The policy of extracting the largest possible land- revenue led to a great devastation which was made worse by the fact that the peasant got very little economic return for it. Very little was spent on agriculture; a large sum was on spent on meeting the needs of the British administration, serving the interests of British trade and industry.

6. McCully, op.cit., p.271.

of political nationalism, the great consummating point of union of which was premised on the fact that "as subjects of the same sovereign, all Indians enjoyed common rights and privileges."[7] Political nationalism then laid down the necessity of securing power of control over provincial affairs.

Yet another factor contributing to the growth and intensification of the national movement in India was the introduction and spread of English as the medium of instruction in all disciplines throughout the country. English was declared as the official language and finally became the medium through which the knowledge of English literature was sought to be disseminated, aided, no doubt, by the printing press. Perhaps, what was more eggregious was the fact that mass-education in English was considered impracticable because of the limited funds ear-marked for educational purposes. Also, an immense degree of intercourse between the colonialists and the Indians, as a result of the increasing commercial activity in the Presidency of Bengal, clearly manifested the need for educational facilities employing English language as the medium of instruction.[8]

It is also apparent that cultural nationalism was an outgrowth of the conflict between the Indians and the rulers, precipitated by the spread of foreign-oriented education among the people whose institutions, customs and traditions were profoundly different from those of the former. It seems

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7. ibid.
8. ibid., p. 20.

reasonably clear that the Indian national movement was intensified by the support of the rising Indian intelligentsia[9] who were gradually drawn into the movement. But to argue, as McCully does, that the feeling of national unity was inculcated among the western- educated Indians alone, is rather inadequate because it is known that some Ayurvedic enthusiasts were not part of this English educational stream and yet reacted to imperialism; they too were able to comprehend the economic and political conditions prevailing in the country.

The recognition that contemporary traditional practices do not reflect the significant achievements of the ancient civilization as a result of their decline, due largely to the imposition of an alien culture and the subsequent demand for State patronage or governmental interference from new regimes for their resuscitation and said to figure as important features of most of the revivalist movements in South-Asian history,[10] is rather disputable. In fact, the alien nature of British rule cannot possibly be held to be solely responsible for lack of progress in Indian medicine. To elaborate, we have the peculiar case of medieval India about which we are told that though the medieval Indian rulers did not initially share the same cultural

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9. They were generally dissatisfied with the inferior vocational status ascribed to them, the highly-paid posts in the Civil Service being monopolised by the British. Struggle for lucrative positions then continued as the number of educated class of Indians increased.

10. P. Brass, "The Politics of Ayurvedic Education: A Case Study of Revivalism and Modernization in India" in S.H.Rudolph and L.I. Rudolph (eds.), Education and Politics in India, 1972, Oxford, Oxford University Press, p.344.

heritage they ruled, they did nothing to positively neglect Ayurveda. As a matter of fact, they sponsored practitioners of Ayurveda and Unani at their courts. We must also cognize that western medical science, at least in the twentieth century, was an offshoot of paradigmatic work wherein the practitioners' main concern was with solving puzzles rather than compilation work which, in turn, led to a better articulation of paradigms. This suggests that western medicine was of a different kind in which case the stagnation of Ayurveda can be attributed not only to imperialist hubris but also to the problems germane in the latter which distinguished it from occidental medical science. The feeling of lack of development in Ayurveda was probably accentuated and became evident with the proliferating advances in the West. We shall see how the proponents of Ayurveda moved in favour of reviving the traditional system of medicine.

## 2. Efforts towards the Revival of Ayurveda: Efforts of Indian Nationalists

A vital factor providing impetus to the Indian national movement was the revivalist movement initiated by the advocates of Ayurveda with a view to restoring and promoting the indigenous medical system. The movement has, however, been one of major significance in Indian history; it aimed at achieving recognition and status by seeking State patronage and establishing institutions in the field. It asserted itself in the early twentieth century and eventually led to the establishment of a dual system of medicine or, in other words, to the existence of a parallel sets of institutions devoted to indigenous and

modern medicine throughout India. The movement found considerable expression in 1907 with the establishment of a professional group of indigenous practitioners, known as the All India Ayurvedic Congress which formed the leading organisation of vaids in India during the period. It was a voluntary association comprised of individual practitioners and local provincial Ayurvedic groups, and was a representative of the "shuddha" school.

In 1920, the Indian National Congress supported the movement demanding State patronage for Ayurveda and passed a resolution demanding popularisation of schools, colleges and hospitals for instructions and treatment in accordance with the indigenous systems of medicine. In the subsequent year, Shyamadas Vacaspati, a reputed Ayurvedic scholar, founded a national university of Bengal, called Gaudiya Sarvavidyayatana, as part of the Non-Cooperation Movement.[11] An Ayurvedic wing was established in the university to protest against the introduction of western-oriented education of the day. In this year too, Gandhi opened the new campus of an Ayurvedic college at Delhi and several years later, he laid the foundation of the hospital of the Ayurvedic college at Calcutta.

It shall be noted that notwithstanding such attempts to develop indigenous medicine, the movement met with partial success. Though the movement was successful in establishing a large number of educational institutions, it failed to set up

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11. B. Gupta, op.cit., p.376.

uniform courses of training and professional opportunities for graduates in the field, the latter two varying from one state to another or even within the same region. Brass has described in some detail the reasons for the failure of the move to promote Ayurveda. Perhaps, one of the cogent reasons for such a state of affairs was, as Brass believes to be the case, the internal conflict among the revivalists, on educational and professional standards.[12] Arguments between the two wings of the movement— one favouring reliance on ancient texts for promoting "shuddha" or "pure" Ayurveda and the other advocating complete integration of the latter with modern medicine— resulted in formulating an Ayurvedic curriculum with unaccountable variations. The recognition that "pure" Ayurveda could not deal with the public health needs of India led the advocates of integrated medicine to frame a system of Ayurvedic education embodying concurrent instructions in oriental and occidental medical sciences, specifically designed to train students in the fundamental aspects of Ayurveda while simultaneously imparting knowledge of western medical science.[13] Such a concurrent teaching was envisaged as playing an important role in public health activities. But a common understanding on the infeasibility of an effective integration of the two systems of medicine because of the fundamental differences underlying the two, probably led the proponents of "pure" Ayurveda— leaders of the Ayurvedic

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12. Brass, op.cit., p. 359.
13. ibid, p. 357-8.

Congress — to outright protest against such a move; instead, they demanded its immediate abolition and replacement by the "shuddha" Ayurvedic studies.[14]

It shall be reasonable to infer that differing opinions between the two interest organizations of the movement over the curriculum of Ayurveda coupled with the fact that the latter was vastly different from western medicine, perhaps acted as an obstacle to its promotion.

From the time of World War I and the Montagu - Chelmsford reforms of 1919 that gave Indians a larger role in governing the country, Ayurvedic revival was increasingly linked with nationalist politics. One of the features of the reforms was the introduction of the system of dyarchy (or the system of dual power) in the provinces where, apart from the control exercised by imperial authorities, subjects as health and education were entirely in the hands of the provincial legislatures.[15] The increasing entry of Indians into the legislature gave them ample opportunity to voice their demands in favour of the regeneration of the pristine heritage of India.

The development of an Ayurvedic college at Poona illustrates the politicization of medical revival in the post-war period during which there were increasing problems of student unrest in Ayurvedic Colleges. The Civil-Disobedience or the Non-Cooperation Movement prodded students to boycott government schools and foreign goods too. They actively responded to the call and began to boycott universities throughout India, as

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14. ibid.

15. Thorner, op.cit., p.38.

part of the Non- Cooperation Campaign. At Poona, political leaders founded a university after the nationalist hero, Lokamanya Tilak, one of the courses of study being Ayurveda. But in 1932, the institution was derecognised and students of the university were imprisoned for participating in the second Civil - Disobedience Campaign of 1930-34 which was fought more intensely. As a reaction to this attitude, a new college of Ayurveda was founded by the leaders of the Ayurvedic movement, in 1933 at Poona. By 1955, the college had gained State recognition and achieved affiliation to Poona university; it eventually became one of the best-equipped Ayurvedic colleges in the country. The foregoing account of the support lent to indigenous medicine should suffice to explicate the stagnation of Ayurveda despite constant efforts to nurture it. But this was not all for its revival. We now shall delve into the steps taken by the Indian government for the purpose.

3. Provincial Support to Ayurveda

From 1900 on, it was possible to see the imperial state being pushed into making decisions about the indigenous medical system. The provincial governments which had been set up in the early twentieth century and were continued in post-independant India, too, gave Ayurveda some measure of support during the period. It is known that these provincial governments patronised Ayurveda by granting facilities for the establishment of indigenous medical institutions; several state

governments also set up Boards of Indian medicine,[16] as government institutions regulating indigenous practitioners. A government school of Ayurveda was then set up as early as 1887 and in 1908, a committee, appointed by the Mysore government, viewing the lack of practical emphasis in Ayurveda, recommended fortification of education in traditional medicine by the inclusion of anatomy, physiology and surgery in the curriculum.[17] By that time, considerable importance was attached to anatomical and physiological studies in the West and, recognizing the scientific breakthroughs achieved by the earlier men of science in the West, the Indians, too, stood in favour of emphasizing the above mentioned fields of medical science. Though institutions offering courses in Ayurveda proliferated, their setting was rather dismal, as is also mentioned about the Tibbia College founded in Hyderabad in 1890, the Aryan Medical School founded in Bombay in 1896 and the Government Ayurvedic College of Mysore founded in 1905.[18] These are stated to have been ill-equipped and without laboratories or libraries. Gradually, with more patronage of the princely States and caste and religious associations, additional schools and dispensaries began to emerge in different parts of the country so that by 1947, there were as many as 57 urban Ayurvedic and Unani Schools with access to hospital wards for

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16. Each of the provinces had branches of the Ayurvedic Congress to present the needs and demands of indigenous practitioners before the provincial governments.

17. Report of the Health Survey and Planning Committee, 1962, Delhi, vol.I, p.454.

18. They were simply elaborations in urban settings of a Tol-with-a-printing press. See Leslie in Friedson and Lorber (eds.), op.cit., p.51.

clinical instructions, laboratories and dissection halls. But despite such a positive improvement, the state of schools was, what Leslie candidly remarked, "enough to expose the scandal of the ancient medical systems."[19] In fact, on the one hand, medical knowledge of vaids and hakims was believed to be confined solely to Sanskrit grammer, the memorization of medical verses and cookbook instructions for the preparation of medicines, while that of western practitioners involved technical skills founded on systematic knowledge calling for long and prescribed training. It was this remarkable distinction which probably prompted Leslie to make such a sweeping statement.

Referring back to Indian governmental support to Ayurveda, it shall be noted that the central government then appointed a series of committees in various Indian provinces, each adducing different arguments in support of the promotion of indigenous medicine. Their proposals shall be discussed below.

## 4. Provincial Support before Independence

### 4.1 Plea for Integration of the Indigenous and Western Systems of Medicine (Usman Committee, 1922)

In reply to a question on whether the indigenous systems of medicine were scientific, a committee headed by Muhammad Usman, contended that Ayurveda was based on viable scientific theories and that its practice had become deficient, and in order to supplement this gap, the committee demanded an

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19. ibid.

incorporation of the technology of modern medicine, particularly in surgery and diagnostics. Its recommendations were opposed by western as well as traditional practitioners, the former condemning Ayurveda as obsolete science and the latter considering the proposal as falling against the orthodox prejudices because of a proposal for its association with western medical science. An interesting point is that notwithstanding opposition from modern medical professionals and advocates of "shuddha" Ayurveda, attempts continued to be made to found new institutions offering instructions in modern medicine along with Indian medical science.[20]

4.2 Proposal for promoting Research in the Indigenous Systems of Medicine

The first Health Ministers' Conference held in 1946, passed a resolution indicating the need to grant facilities for encouraging research in the indigenous systems of medicine, establishing new colleges and schools and absorbing practitioners of the system in the health services of the country.[21] Prior to this, the first comprehensive health survey in British India was initiated in 1943 by a committee under the chairmanship of Sir Joseph Bhore.[22] The report provided guidelines for health planning in the following fifteen years, but failed to

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20. Leslie, "Modern India's Ancient Medicine", Transaction, June 1969, New York, pp. 46-55; p.54.

21. Resolution no.11, adopted by the Central Provincial Health Ministers' Conference at New Delhi. See Jaggi, June 1977, op.cit., p.342.

22. The committee's report was published in 1946.

account for the utility of indigenous systems of medicine in the health services of the country. This, of course, went in for a good deal of criticism by Ayurvedic enthusiasts. The members of the committee seem to have side-tracked the issue by stating that it was not in a position to form an opinion on its utility and instead argued that "no system of medical treatment which was static in conception and practice and did not keep pace with the discoveries and researches of scientific workers of the world over, could hope to give the best available ministration to those who sought its aid."[23] At the same time, the committee acknowledged that "the treatment given by practitioners of traditional medicine was cheap and that the empirical knowledge accumulated over centuries, had resulted in a fund of experience which was of some value."[24] The committee, however, left it to the provincial governments to find out measures to effectively utilise indigenous medical systems in the medical relief of the country. In fact, the only positive recommendation made in favour of ancient medicine was the establishment of a department of history of medicine in the All India Institute of Medical Sciences, so as to facilitate the study of indigenous systems with a view to finding out what they can contribute to the sum total of medical knowledge.[25]

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23. Report of the Health Survey and Development Committee, 1946, Delhi, vol.IV, p. 73.

24. ibid., vol.II, p. 455.

25. ibid., p. 453.

### 4.3 Emphasis on the Concurrent Teaching of Medical Science (Chopra Committee, 1946)

One result of the resolution of the Health Ministers' Conference was the appointment of a committee in 1946 under the leadership of R.N. Chopra. The committee envisaged an integration of the Ayurvedic and western systems of medicine. It stressed the scientific adequacy and technological deficiency of Ayurveda for supplementing which it laid proposals for the full professionalization of Indian medicine in combination with modern medicine.[26] Research work in testing and checking the medical theories in order to reconcile or reject them thus obtaining a unified system of medicine, figures as an important recommendation of the committee. Thus we find that the main aim here was to give an impetus to medical and scientific research in Ayurveda, ultimately leading to a synthesis of oriental and occidental sciences.

## 5. Support to Ayurveda after 1947

The years following independence witnessed a continued appointment of committees to deal with the Ayurvedic system of medicine. Let us now see how far independent India was able to resurrect and revolutionise Ayurveda.

### 5.1 Proposal for setting up an Institute of Research (Pandit Committee)

The committee was instrumental in establishing the Central Institute of Research in Indigenous Systems of Medicine

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26. Brass, op.cit., p. 252.

and the Post-Graduate Training Centre for Ayurveda at Jamnagar, both of which began functioning in July 1956. The period also witnessed the establishment of similar institutions at Varanasi and Trivandrum. Also, the committee advanced proposals in support of an integrated teaching of Ayurveda and Western medical science for their ultimate synthesis.

## 5.2 Regulation of Standards of Education in Indigenous Medical Science (Dave Committee)

In response to a resolution passed by the Central Council of Health of 1954, the government of India appointed a committee in 1955, under the chairmanship of D.T. Dave, to study and report on the question of establishing standards in respect of education and regulation of the practice of indigenous medical systems.[27] It recommended the continuance of integrated courses and gave a model syllabus for the same. It further suggested the adoption of a uniform standard of training consisting of five-and-a half years, including one year of internship with at least a three - month training in rural areas.[28] Perhaps, a cogent reason for the emphasis on rural training appears to be related to the fact that it would ensure proper acquaintance with the rural people also, with disease conditions prevailing there. This, in turn, would lead to a more or less effective provision of medical relief to the vast majority of the Indians.

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27. Brass, op.cit., p. 359.

28. Report of the Committee to Assess and Evaluate the State of Ayurvedic System of Medicine, Delhi, 1958, p.6.

## 5.3 Investigation into the Status of Ayurveda in India

In 1957-58, a committee headed by K.N. Udupa investigated into the status of Ayurvedic institutions and assessed and evaluated the status of indigenous medicine during the period. On the recommendation of the committee, the Indian government established the Central Council for Ayurvedic Research, in order to promote research on indigenous drugs and pharmacopoeia and finally, to conduct literary research on the theories and principles of Ayurveda.

## 5.4 Plea for the Abolition of the Integrated System of Training (Mudaliar Committee)

In 1962, still another committee was appointed with Lakshmanaswami Mudaliar as the Chairman. The first, and perhaps an important, recommendation of the committee was the abolition of an integrated system of training and the institutionalisation of "shuddha" Ayurveda, probably related to their recognition that training in indigenous medical science should necessarily involve a study of authentic and original manuscripts and books on Ayurveda.

The type of synthesis Mudaliar Committee envisaged appears to be different from what the previous committees had proposed. Stated simply, it urged that sound education in Ayurveda should be followed by an intensive course later in certain branches of western medicine such as preventive health work, obstetrics and others.[29] Since the latter two constitute

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29. Report of the Health Survey and Planning Committee, op.cit., p.457.

important areas of medical science, knowledge of these was considered to be essential in order to ensure adequate provision of medical relief.

### 5.5 Practice of Indigenous Medicine in the light of Western Medicine: Adoption of Modern Technology and Equipments (Vyas Committee)

The last committee set up for conducting an inquiry into the indigenous medical systems was the one headed by M. Vyas, in 1962. It favoured promotion of the course in "pure" Ayurveda and stated that Ayurveda was to be developed by an intense study of the classical medical literature including its materia medica and pharmacy. What is significant to note is that although it disfavoured the inclusion of subjects of modern medicine in the course, it staunchly advocated the study of anatomy and the practice of employing the methods of dissection of corpse in the light of western science, and utilization of methods and equipments employed by western medical practitioners.[30] To justify its recommendations in favour of the integration of the two medical systems for the promotion of the practical aspects of Ayurveda, it argued that since many modern drugs produce side-effects, it was essential for the Ayurvedic physicians to deal with such cases which, in turn, would necessitate the requirement of the possession of knowledge of western medicine. It appears that the move to incorporate technological aspects was related to the recognition that modern methods would replace ancient methods

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30. Brass, op.cit., p. 360.

where the latter had fallen into disuse, as in the dissection of dead bodies.

The Annual Meeting of the Central Council of Health held in 1963 endorsed the proposals of the committee for the introduction of "pure" Ayurvedic courses in all colleges of indigenous medicine.

The above account should suffice to indicate the political patronage enjoyed during the period stretching from early twentieth century to post- independent era during which positive efforts were made to support Ayurveda. But we find that despite the new policy, no worthwhile achievement was ever credited to Ayurvedic physicians.

By 1947, it was possible to discern three main organised groups in the medical domain in India[31] — the cosmopolitan doctors with a stranglehold on medical bureaucracy, the practitioners of "pure" Ayurveda, and those of integrated medicine. In this connection, Gandhi's remark that "the little that remains of the glory of Ayurveda should not be completely lost by admixture with allopathic or any other system,"[32] perhaps, does not account for the fact that though Ayurveda had clients as well as sympathisers, to be precise, it was unable to come out with the advancement and significant breakthroughs the western practioners would have anticipated.

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31. Jeffery, "Policies towards indigenous healers in independent India" (Paper presented at an Annual Conference of the Society for Applied Anthropology, Edinburgh), April 1981, p.11.

32. B. Gupta, op.cit., p. 376.

It has often been suggested, especially by the advocates of integrated Ayurveda, that western medicine and Ayurveda would both benefit from integration.[33] The assumption was that Ayurveda was capable of expansion and would undoubtedly derive benefit from such an association. A somewhat paradoxical statement which could possibly suggest the reason for different opinions on the system of training in Indian medicine— whether integrated or "pure" — has been made by Madan. He urges that "whereas modern medicine is experimental and, therefore, capable of advances in diagnosis and treatment, traditional medicine is a closed system and is non-experimental, hence incapable of improvement within the traditional framework."[34] This, however, appears to be quite plausible because we have the case of late ancient and medieval India when, it is known, ample opportunities were provided by the imperialists to develop the medical system.

## 6. Concluding Reflections

From the above account shall emerge certain important facts. To begin with, the recognition that Ayurveda continued to provide medical relief to a majority of the Indian population because of the existence of a clientele can hardly be gainsaid. It can also be shown that Ayurveda, even in British India, allowed some practitioners to do well and amass a good fortune.

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33. Such a point was made by the then Civil Assistant surgeon of Burma. Education, Health and Lands, Sept. 1926, nos. 26-31 A Health branch.

34. T.N. Madan, "Who chooses Modern Medicine and Why", Economic and Political Weekly, Sept., 1969, Bombay, vol. IV, no.37, pp. 1475-1484; p. 1475.

In addition, it is possible to isolate three categories of the patrons of indigenous medicine. The first one embraces the Ayurvedic enthusiasts who were in the stream of Indian nationalism and who identified Ayurveda with the pristine culture of India. We also have the provincial committees appointed by the Indian government centering on the lack of research and experimental work in traditional medicine. Lastly, we have the practitioners of Indian medicine taking initiatives to support and increase the number of Ayurvedic institutions.

At this point of our concluding remarks to this chapter, it might seem legitimate to contend that inspite of political encouragement to Ayurveda in late ancient and medieval periods and later State support, Ayurveda failed to pick up and as such no dynamism in Indian medicine could be visualised; Ayurveda was unable to attract people who had gradually begun to move more towards western medicine, probably because the former had reached a stage when there was no room for its improvement. Besides, two points emerge in connection with the proposals for revivifying Ayurveda. Medical work in ancient and medieval India, we found, was largely comprised of compilations, while in British India, steps to promote Ayurveda were focused on learning from Ayurveda with a more scientific outlook.[35] Viewing the relative advantage of one over the other, it seems reasonable to suggest that in the former case, of adding to Ayurvedic lore (with accretions), mere addition of successful trials and methods

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35. See also Traditional Medicine Programme (Report on a Seminar), Colombo, April 1977, WHO, p.5.

of treatment, certainly does not aid in revitalizing Ayurveda. The result is a constant proliferation in the number of compositions without any significant addition to medical knowledge. The latter on the other hand, appears to be more convincing and, perhaps, one that would serve our initial purpose of developing Ayurveda. That is, medical knowledge in this process is not lost but essentially revitalized in the light of the more developed one.

# CHAPTER VI

# CONCLUSION - THE STATE AND INDIGENOUS MEDICINE

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## CONCLUSION - THE STATE AND INDIGENOUS MEDICINE

If there is one work that has inspired us to undertake this study then it is Debiprasad Chattopadhyaya's Science and Society in Ancient India. This is probably evident from the number of times he has been referred to in the foregoing pages. It is true that much of the arguments put forward here run contrary to many of Chattopadhyaya's explicit formulations and yet, we must admit that such arguments would not have occurred to us, nor would we have started an enquiry in such directions if Chattopadhyaya's work had not been quite as seminal and provocative as it has been.

When one acknowledges intellectual inspiration, one can rarely do it effectively if one were to only carry out in greater details the essential postulates of the master-preceptor as, for instance, the Ayurvedic scholars had done through centuries. They could neither develop a critical thinking of the paradigmatic grid of Ayurveda nor could they effectively assimilate knowledge from other sources into the Ayurvedic corpus. On the other hand, in order to legitimately acknowledge the mastery of Chattopadhyaya's work, we entered into an in-depth scrutiny of his arguments, tried to test them for their logical rigour, faulted them, sometimes too hastily perhaps, for lack of empirical support, stretched the argument thinly across a broad historical canvass in order to see how far the logical seams hold. It is quite another matter whether or not we have done our job well, but our effort is a

measure of our deep appreciation for Chattopadhyaya's coruscating work.

This is also how, we believe, knowledge grows— not always by agreements but more often by arguments. Some of these arguments spawn counter-arguments by the sheer dint of their authenticity, others are left languishing though they are not always wasted efforts. In our opening chapter we tried to show how Ayurveda, though it began as it did with scientific curiosity, soon settled down to an unquestioning technology. Debiprasad Chattopadhyaya contended that this lowering of scientific standards was because religious orthodoxy attacked medical science as the latter believed in materialism, empirical demonstration and so forth. This may be true, but the only evidence Chattopadhyaya brings in favour of this point of view is the attack in Yajurvedas on the twin Asvins — the physician-gods.

However, for the thesis to sustain itself, even within the theoretical structure of Chattopadhyaya's work, it has also to be demonstrated that Ayurveda was attacked by the State at the behest of the religious orthodoxy. It is here that problems start. First, we have no evidence of this in ancient India. On the contrary, as we have mentioned, some of the great Ayurvaidas, whose reputation had reached mythical proportions, were patronised by royal courts right down to the late ancient period. Second, as Gupta has argued in a recent paper, neither religious orthodoxy nor the State opposed the the expertise of Ayurveda, but were in fact against scientific

enquiries, which might disturb the teleological harmony on which religious theories and political overlordship rest.[1] In other words State patronage does not always imply that science will flourish — a technology and practice might. This is the major contention that occurs in the first chapter and continues to recur in all subsequent chapters.

While raising these questions, it occurred to us that there were similar views regarding the decline of Ayurveda in the medieval and modern (essentially post-British) period as well. It has often been contended that the Muslim rulers of India throttled Ayurveda in order to patronise Unani, and it has also been said that the British, after the eighteenth century, finished what little was left of Ayurveda by sponsoring western medicine. This raised in our mind a problem which was, initially, only dimly suggested when we were critically examining Chattopadhyaya in the first round. The problem is that it would not be possible either for the State or for religious orthodoxy to "banish" a technology which is eminently practical. If Ayurveda had a certain proven utility, and if Unani did not offer a superior practical alternative, then the most optimum alternative for the State would be to utilise and indeed monopolise both. Further, if a certain technology is practical and yields results, meets human felt-needs, then the greatest succour of this technology is its clients. This led us to hypothesize that with a dependable clientele base, Ayurveda could flourish and bring encomiums to many of its practitioners.

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1. D. Gupta, op.cit.

With these, somewhat hazy notions in mind, we began to read some literature on medieval Indian history and we found that there was no evidence that Ayurvaids were being persecuted. On the other hand, elaborate attempts were made, on occasions at the behest of the grand emperors themselves, to co-ordinate Ayurveda with Unani. The number of extant books and scrolls from this period is a vivid testimony to this fact. However, we noticed one remarkable fact. Inspite of continued patronage in ancient India and in medieval India, by the State, Ayurveda (nor Unani for that matter) failed to regenerate itself as a science. A large number of framed works on Ayurveda down the centuries were, in fact, compilations — the grander the compilation, the more enviable the reputation of its author. Rahman's work on scientific and technological literature in medieval period further illustrates this point.[2]

When we began investigating into the post-British period, we realized that there was yet another dimension that had to be taken into account to appreciate the close links between Ayurveda and Unani. We did not realize that earlier, so we hastened to make this observation in Chapter III. We realized that the reasons for the close links between Ayurveda and Unani arose from the fact that both of them shared an identical governing assumption, namely, the humoral theory and, therefore, the technology and pharmacopoeia in one could supplement the other and thus a wider territory could effectively be covered

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2. Rahman, op.cit.

for very practical purposes. This also led us to an examination of the character of ancient medical science vis-a-vis modern medical science. One major distinguishing feature was the personalized didactic atmosphere of ancient medical science which was perhaps aggravated by the lack of impersonal diagnostic instruments. Both Unani and Ayurveda made no headway with anatomy, physiology, pathology or nosology, whereas western medicine had, even though it could not adequately and optimally utilise them till the mid-nineteenth century.

One must accept that with the British rule in India, Ayurveda for the first time probably lacked official patronage. But to put the blame on the British for the stagnation of Ayurveda is, perhaps, being too nationalistic. For hundreds of years prior to the British, and with State patronage, Ayurveda made no significant breakthroughs. The readiness with which British rule is blamed for the decay of Ayurveda is probably because during British rule, it was made evident by contrast that Ayurveda and Unani were stagnant systems. However, the real blow to Ayurveda was not the lack of British patronage. Many local Ayurvaids did very well as the rural indigenous population still formed their very willing clientele. Some Ayurvaids, records reveal, amassed huge fortunes and ran viable training centres. The real blow to Ayurveda came when the clientele base of Ayurveda shifted towards western medicine, as the latter proved to be, in most cases, more effective. This shift became noticeable during the early twentieth century and has become increasingly more so today.

While the imperialist attitude of the British did play a role in denying Ayurveda official patronage, this was made even more legitimate by the marked difference that medicine bore with indigenous medicine, regarding diagnosis, nosology, pathology and, most important of all, anatomy and surgery, with special reference to gynaecology and obstetrics. This allowed the British, as it did not allow the Mughals, to give a wide berth to Ayurveda and disregard the pharmacopoeia of indigenous medicine. In the late-nineteenth century, when western medicine made significant strides, both clinical medicine, and later in the twentieth century with the handling of epidemics, the internal paradigmatic weakness of Ayurveda became more and more apparent.

In the twentieth century again we found that Ayurveda was given all kinds of encouragement, firstly by the nationalist movement then by provincial governments and then by the State in independent India, but Ayurveda remained comatose. This is reflected in the numerous disagreements that exist between schools and by different patrons of Ayurveda. Are we then to make the near sacrilegious comment now that Ayurveda cannot be regenerated ? Yes, we are, but we should like to clarify what we mean by regeneration. For over centuries, Ayurvaids have compiled a pharmacopoeia which cannot easily be dismissed and neither should it be. It is incumbent upon modern medical science to assess the efficacy of the materia medica of Ayurveda and to place it on a sounder footing in keeping pace with the advance in modern medicine. But if by regeneration we mean the revival

of Ayurveda with its paradigmatic grid, then we believe that this ancient system has had its day. Some people doubt this, believing that there are still scientific advances lurking in Ayurveda as Ayurveda has not been able to give a full account of itself since it has been smothered by centuries of neglect, first by Muslim rulers then by the British. Our investigation does not allow us to entertain this argument and it tells us instead that Ayurveda has ceased to grow for many centuries now and has met the fate of all other ancient medical sciences — Hippocratic, Galenic, Arabic and Chung-I. We would favour regeneration of the first kind, that is, re-integration of proto-science with modern science. This proposal might also meet with the acceptance of the people who have shifted away from frequenting Ayurvedas to frequenting clinics of modern medicine whenever the latter are accessible. The recourse to multiple forms of therapy by the people is a complicated subject which needs a fuller investigation, but only this much can be said authoritatively: the preference for modern medicine ranks much higher than indigenous medicine among the people of India.

It is quite apparent that our work is very preliminary in character. Its main purpose was to examine some of the more current views regarding the political State and indigenous medicine. While examining these views we were able to formulate some views of our own regarding the distinction between Ayurveda as a science and Ayurveda as a technology, and the reasons that compel the State and the people to favour or disfavour a particular kind of science and technology. From our provisional

positions stated in this dissertation, we feel that an intensive study can now be done on how Ayurveda in modern times has reacted to the support it has received from various quarters and how people, faced by an urgent problem have, in turn, reacted to the various turns that Ayurveda has taken. We also grant that our positions may be wrong, but if by raising some issues in argumentation we are able to draw further attention to some weak links in the issues we had contended with, then it is possible that some fresh light can be thrown on the dynamics of science and on the interaction between science, technology and society.

# APPENDICES

# APPENDIX - I

## CHRONOLOGICAL CHART

Indus Valley Civilization → c. 3000-2000 B.C.

Aryan invasion - - - - → c. 2000 B.C.

Vedic period:
- Rgveda - - - - - - - → 1500 B.C.
- Samaveda - - - - - - → ?
- Yajurveda - - - - - → c. 1000 B.C.
- Atharvaveda - - - - - → 1200 B.C. / - - - - - → c. 1000 B.C.

Post-Vedic period

a Taught medicine at Taxila University

b Surgeon at Banaras

c Atreya's pupil; a physician and surgeon and a contemporary of Buddha

d Physician to king Vikramaditya

e Court physicians to king Kanishka

f

g Most commonly accepted date for its composition

h Law-codes of the earliest group of Indian Law-givers - Apastamba; Gautama and Vasistha

i Many Dharmasutras formed part of this class of literature - included priestly manuals concerning rules and regulations regarding ritual techniques

### MEDICAL AUTHORITIES

1. Atreya[a] → 600 B.C.
2. Susruta[b] → 600 B.C. / 600 A.D.
3. Jivaka[c] → 588 B.C.
4. Dhanvantari[d] → 523-583 A.D.
5. Caraka[e] → 200 B.C. / 100 B.C. / 100 A.D.
6. Nagasena → 100 A.D.
7. Nagarjuna[f] → 200 A.D. / 100 A.D.
8. Vagbhata → 400-600 A.D. / 300 A.D.
9. Dradhabala → 800-900 A.D. / between 300 & 400 A.D.

### AYURVEDIC COMPILATIONS

1. Caraka Samhita → 600 B.C. / 200-100 B.C. / 100 A.D. [g]
   - Intermediate editor Caraka → 120-150 A.D.
   - Final redactor Dradhabala → 900 A.D. / 400-500 A.D.
2. Susruta Samhita → (300-400 A.D. / 400-600 A.D. / 700 A.D. / before 10th century A.D. / (latest edition)
3. Astangasamgraha → (400-500 A.D. / 700-800 A.D.
4. Bower Manuscript → (450 A.D. / 350-375 A.D.
5. Dhanvantri Nigantu (by Dhanvantri) → 523-583 A.D.

### LATER VEDIC LITERATURE

1. Brahmanas → 1000-600 B.C.
   and
   Upanishada → 800-700 B.C.
2. Recensions of Yajurveda

### INDIAN LEGAL LITERATURE

1. Dharmasutras[h] or Dharmasastras → between 600 and 300 B.C. / 500-200 B.C.
2. Dharmasutras developed into Smritis oldest among which is Manusmriti → 200 B.C. & 200 A.D. / or Manusamhita → 100-200 A.D.
3. Legal text of Vishnu → c. 300 A.D. (Vishnu dharmasutra)
4. Kalpa-sutra[i] ?

## APPENDIX - II

## IMPORTANT UNANI MEDICAL WORKS OF MEDIEVAL INDIA

| PERIOD | IMPORTANT COMPILATIONS | COMPILERS |
|---|---|---|
| A. REIGN OF ALTAMISH | 1. Translation of Al-biruni's Kitab-al-Saidana (first medical book of Greco - Arab medicine written in India) | → Abu Bakir bin Ali bin Uthman |
| | 2. Other medical works | → Badral-Din Dimashqi<br>→ Sadr al-Din Tabib<br>→ Alaal-Din |
| B. KHILJI PERIOD (1290-1321 A.D.) | 1. Majmua-i-Shamsi | → Shams-ul-din Mustaufi |
| | 2. Majmua-i-Mohammadi | → Mohammad |
| | 3. Risala-ai-Firuz Shahi | → Shah Quli |
| C. TUGHLAQ DYNASTRY | | |
| a. Mohammad bin Tughlaq (1325-1352 A.D.) | 1. Majmua-i-Ziae | → Ziya Muhammad Mubaraka |
| | 2. Majmua-i-Diyaiyya | → Hakim Diya Muhammad |
| | 3. Kitab-fil-Sanna'at al-Tibbiya | → Ziya-ud-din Bakshi |
| | 4. Kitab-al-Kulliyat wa-Juziyat | |
| b. Firôz Tughlaq (1352-1388 A.D.) | 1. Tibbe-Firoz Shahi (first translation of an Indian medical text into Persian) | → dictated by Firoz Tughlaq |
| | 2. Kuhle-Firoz Shahi | → Firôz Tughlaq |
| D. PROVINCIAL RULE<br>Mahmud Shah (1458-1510 A.D.) | 1. Translation of a book Vagbhata into Persian | → Ali Mohammad |
| | 2. Tibb-Shifai-Mahmudi | → Mahmud Shah |
| | 3. Tarikh-e-Ibn-e-Khallikan<br>4. Mishkai-Sharif<br>5. Translation of Ayurvedic works of Vagbhata | → Not known |
| E. MUGHAL DYNASTY | | |
| a. Babur's reign (1526-1530 A.D.) | 1. Jami-ul-Fawaid (first book on integrated medicine-Greco-Arab and Ayurveda) | → Hakim Yusuf bin Mohammad |
| | 2. Qaisda-fi-Hifz-ul-Sihhat | |
| | 3. Destur-ul Fasd | → Hakim Muhammad Beg |
| | 4. Other medical works | → Mir Khalifa |
| b. Humayun's reign (1530-1555 A.D.) | 1. Several manuscripts | → Mohammad Beg and Yusuf bin Mohammad |
| | 2. Humayuni | → Maulana Muhammad Fazl |
| c. Akbar's reign (1556-1605 A.D.) | 1. Certain Medical works | → Hakim Ali Gilani, Kavi Chandra, Vidyaraja |
| d. Jahangir's reign (1605-1627 A.D.) | 1. Translation of an Ayurvedic treatise on hygiene | → Hakim Ruhuallah |
| | 2. A medical manuscript | → Hakim Sadra |
| | 3. Dastur-el-Hunud | → Hakim Amanullah Khan |
| e. Shah Jahan's reign (1627-1658 A.D.) | 1. Treatise on the achievement of Unani and Indian physicians during his rule | → Hakim Abdullah |
| | 2. A medical work<br>3. Ganj-e-Badaward | → Hakim Amanullah Khan |
| | 4. Ilajat-i-Dara Shikohi | → Hakim Nurud-Din bin Abdallah |
| | 5. A medical work | → Ain-ul-Mulk Shirazi |
| f. Aurangzeb's reign (1658-1707 A.D.) | 1. Tuhfat-ul-Atibba<br>2. Riyaz-e-Alamgiri<br>3. Tibbe-Nabavi<br>4. Mufrit-ul-Qutub<br>5. Mirzan-e-Tibb<br>6. Tibbe-Akbar<br>7. Tibbe-Hindi (on the drugs of Ayurvedic pharmacopoeia) | → Mohammad Akbar bin Mohammad Maqin Arzani |
| | 8. Tibbe-Aurangzebi | → not known |
| F. AFTER AURANGZEB | Compilation work goes on | 1. Mirza Mohammad Hashim Alawi Khan<br>2. Hakim Shaikh Gulam Mustafa Muradabadi |
| | 1. Muheet-a-Azam | → Hakim Alam Khan |
| | 2. a medical treatise (Last effort in popularizing Unani drugs in India and in finding suitable Hindi terminology for their acceptance by the masses) | → Sharif Khan |

## APPENDIX - III

Essential constituents and the working principles of the body, according to Unani medicine, may be classified as follows:

(Source: O.P. Jaggi, Medicine in Medieval India, 1977, Delhi, Atma Ram, p. 37.)

1. Elements ----→ a. air, b. earth, c. water, d. fire

   represents → gases, solids, liquids, heat of the body

   Four states of matter constituting the body

   Constitute → air of the body, skeleton, humours and fluids

Qualities of the four elements:

- air ⟶ hot and moist
- earth ⟶ cold and dry
- water ⟶ cold and moist
- fire ⟶ hot and dry

2. TEMPERAMENT ⟶ product of a mix of the four elements and expressed in terms of heat, coolness, dryness and moisture.

3. HUMOURS ⟶ phlegm, black bile, yellow bile and blood.

4. ORGANS ⟶ essential ones include liver, heart and brain.

5. LIFE SPIRITS → 3 varieties
   - → vital ⟶ formed in the heart
   - → animal ⟶ formed in the brain for the purpose of movement and sensation
   - → natural → linked with nutrition.

6. ENERGY ⟶ for different bodily functions

7. ACTION ⟶ function of a particular organ of the body.

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