Chapter 1

Introduction

The theme
Survey of connected modern publications

The medical arts and their practice have played so important a part in the development of our civilization that they constitute a branch of historical studies second to none in utility and interest. Besides, as development of medicine remained a domain where practices of population groups interacted freely, an examination into the growth of classical Indian medicine may show how far Indian culture represents an amalgam of diverse social streams and how far it reflects a monopoly of the so named Dravidian or Aryan cultures only.

The present work is chiefly oriented to explore different phases of the development of classical medicines and to trace their characteristics. Theoretically it accepts that the ways in which a community copes with illness are central to the beliefs and practices of that community and also bear a close relationship to its major social, economic and cultural institutions. Since ancient India consisted of a multitude of social and cultural complexes it also attempts to highlight the conditions that influenced the rise of new concepts of health and healing and permitted the continued existence of the old patterns of medicine among diverse population-pockets. While discussing the various phases of ancient Indian medicine the present work focuses on the following major issues:

1. historical settings of the given phase of medicine
2. conditions influencing rise of the phase
3. theoretical features of the phase
4. reasons and circumstances changing the scope of the given phase, and
5. implication and contribution of the phase to history of medicine

The present thesis uses immoderately the original Sanskrit, Pali and Tamil sourcebooks. The boggy stereotypes current in the theme abstain from this reappraisal to provide more expansive and more focused perspectives on health and healing in ancient Indian societies. This orientation towards the history of medicine appears critically justified since the available literature on medical history in India largely continues in a desideratum.

The poor standard of ancient Indian medical history is partly due to the dearth of sources which permit reconstruction of different stages of the evolution of the system of medicine. India lacks the kind of historical records of medical systems and prescriptions comparable to those unearthed in
Assyrian sites (Steinmann 1990: 32). In the case of Egypt, there is multiplicity of survived original papyri works, numerous wood and other engravings, demonstrating various medical scenes. Here as well as in further west, one finds remains of skeletons preserved safe, thanks to the dry climate. Such remains facilitate investigation of possible diseases leading to death or cases of operated surgery. With the help of such remains marvellous works have been done on Egypt (Ghalioungui 1963) and connected regions (Manchester 1984). This method of investigation has come to be called palaeopathology and palaeostomatology (Brothwell and Sandison 1967:673).

The modern notices on Indian medicine start appearing from the early 19th century. Dr. Ainslie, a surgeon in Madras, published his *Materia Medica of Hindustan* in 1813. He was followed by Wise who produced a scientific narrative *on Hindu System of Medicine* in 1845. These works discuss the medicinal items, anatomy and physiology of Ayurveda.

These early scholars were followed by the western philologists interested in Sanskrit literature. Apart from discussing the contents of different ancient Ayurveda texts, they, notably Weber (1878), Macdonell (1899) and Keith (1920) also debated and fixed the dates of these compilations. Early scholarship of ancient Indian medicine was greatly stimulated by the discovery of certain 51 burch leaves by Lt. H. Bower near Kashgar in Central Asia. Named *Navanitakam* but famous as Bower Manuscript (presently lodged in Bodleian Library, Oxford) it was edited by Hoemle (1893 and 1909).

Such introductory works on ancient Indian medicine hinted at the apparent resemblance between ancient Greek and Indian medicines. Partly due to this and partly because of the general trends of Indian historiography, the later works on ancient Indian medicine were coloured in two different taints. One group of scholars demonstrated European bias while the other was strongly nationalistic. The European prejudice is betrayed in such points as unwarranted stress on the role of ancient Greece in the introduction of the science in medicine. An example of this is the apocryphal opinion of Johann Hermann Bass that the name of Śuṣruta was in reality a transmutation of Socrates and that his birth place of Kāsi was a mutation of Kos (ref. to *JHM & AS*. Oct. 1970: 492). The Greek origin of Ayurvedic science was a favourite subject of such deliberations. Scholars like Albutt (1909: 1) were also involved in announcing that the medicine of India did not contain even the rudiments of science. The European bias in historiography of ancient Indian medicine is reflected also in newer write-ups. For example Krumbhaar (1947: 84-97) says that medicine in ancient India was 'different from the Greek one and was in primitive state.'

The prejudice is again demonstrated in scores of writings on the world history of medicine which seldom involve the ancient Indian contexts. There is a host of such works on the history of public health (Rosen 1958), psychiatry (Sachneck 1960), preventive medicine (Wain 1970) and general history of medicine (Metter 1947; Ashworth 1953; Gunthrie 1960; Singer and Underwood 1962; Hobson 1963).
However, this pattern has not been uniformly followed by all western scholars in the field. Though not copiously, certain scholars have indeed included a narrative of ancient Indian medical systems. They have provided useful materials on history of medical education (Puschmann 1891); healing gods of antiquity (Jayne 1925); history of surgery (Zimmermann and Veith 1961), science and secrets of early medicine (Thorwald 1962) and ancient diseases caused by bacteria and virus (Hare 1967). (It is, however, strange that Hare has dated the ancient Indian text *Manuṣmṛti* in 1300 BC: 126). A few other works on world history of medicine also deal with Indian situations. These works include both old and new studies like those of Baas (1889); Garrison (1929) and Major (1954).

For the orientalists medicine in ancient India apparently offered a strong point to magnify the ancient glory of India. Mr. Colebrooke declared that in the field of medicine, the Hindus were teachers and not learners. Similarly, Mr. Pocock was of the opinion that Pythogorus - 'father of healing art' in Greece - was originally an Indian called Buddhaguru. Prof. Diaz opined that Egyptian medicine was of Hindu origin. Prof. Filliozat (1949) tried to prove that Ayurveda was of Vedic origin. Besides, his work also involved narrative of the fundamentals of Ayurveda as well as its Greek parallels.

Apart from the foreign orientalists there were the nationalist scholars. They were concerned not only with countering of the theory of Greek origin of the Ayurveda but also to maintain that its decline in the country was the consequence of discouragement by the colonial rulers who supported only the allopathic system of medicine. Sinha Jee argues for the Aryan origin of Greek medicine and opined that Hypocrates, the ancient Greek medical theorist himself had to come to India to learn the craft (1895:199). He suggested that if the medical sciences of India in its palmy days had directly or indirectly assisted the growth of medical science in Europe, it was but fair that the latter could show its gratitude by rendering all possible help to the former, old as it was, and almost dying for want of nourishment. In his opinion Aryan medicine declined as a result of the unfavourable policies of Mughal emperors (p.198).

To establish Ayurveda as a science of high scope and utility, numerous monographs were prepared by nationalist scholars who highlighted the standard of Ayurvedic pathology, diagnosis, prognosis, *materia medica*, therapeutics, gynaecology, obstetrics, paediatrics, etc. Some representative works among them are those of Gupta (1901), Mukhopadhyaya (1923), Chakraburty (1923), and Sharma (1929). As a rule these monographs are vastly crowded with quotations from the Ayurvedic literature. After 1947 independent works eulogizing ancient Indian medicine are rather rare but nationalist accounts of it continue to appear in works on the history of general sciences like those of Seal (1958) and Mehta (1959). A particular study has tried to deny or minimize the Hellenistic credit to the growth of sciences in India (Banerji 1961).

Apart from praising the high scientific standard of the Ayurveda, the nationalist accounts contain narratives of mythological figures like Dhanvantari, Indra, Aśvini, Bṛādvāja, Chyavana and
Kāśyapa and others. The historicity of such figures has hardly been discussed by these studies. This is the case also with few independent monographs on medical authorities of ancient India by scholars like Jaggi (1966) and Shastri (1977).

The nationalist accounts failed to impress upon the historians and as late as in 1962 we discover Kutumbiah, a physician by profession, producing his *Ancient Indian Medicine* for the purpose of bringing 'knowledge of the achievements of ancient Indian medicine to a much wider reading public' and 'establishing its legitimate place in history'. Nevertheless, the historiography of ancient Indian medicine remains indebted to the above studies, particularly for the materials they offer on Ayurvedic authorities and the details regarding the scientific aspects of Ayurveda.

In the available literature on ancient Indian medical historiography, books on their scientific aspects number the most. Mention must be made first to the Banaras Hindu University series on ‘Surgery in ancient India’ by Singhal and his friends (1972 onwards). Based on the text Śuśruta Samhitā, the series displays true Sanskrit scholarship and sound surgical knowledge which were lacking in previous works on the theme. Another work on the Śuśrutā Samhitā has been authored jointly by Ray, Gupta & Roy (1980). Historiographically this work is more helpful since it mentions the diseases referred to in the ancient text and discusses its date. The same group excepting Roy has also produced a similarly useful study on the ancient Charaka Samhita (1965).

Another series dealing with ancient Indian medicine has been prepared by Jaggi. Basically a chest-specialist from Delhi, he has produced many a work on other sciences in Indian history as well. Though his works *Yājñic and Tantric Medicine* (1973a) and *Folk Medicine* (1973b) are valuable since they cover new subjects, his *Indian System of Medicine* (1973) reflects a poor reading. It describes in some detail the medical education, personal health, anatomy, physiology as well as classification, diagnosis and prognosis of diseases in the Ayurveda. The same approach has been used several times already in past. It is hardly enough to serve up verbatim extracts from the ancient Ayurvedic texts, without adding onto any material respecting the problem of chronology of the treatises. The major fault of this volume is that it has nothing new to say. It is meant more for a widely-read amateur and hence lacks original efforts which are much wanted in this area of academics.

Among the books limited to the scientific narrative of Ayurveda without any discussion on its relations with the history of the country in general, may be noted the monographs of Hoernle (1907) on osteology in ancient India, of Gupta (1930) on the general principles of Ayurveda, and of Udupa (1970) on the drug evaluation in India as well as Susruta’s contribution to the fundaments of surgery. The collection of papers on the history of sciences in India edited by Bose (1971) include a paper by Majumdar on Indian medicine (pp.213-226). He has referred to the origins and antiquity of Ayurveda but his treatment of the subject as well as the ideas about the basics of Ayurveda are
comparable to those of Kutumbiah's work mentioned above. Another series of ten essays on medical science and physiological concepts in ancient and medieval India was edited in 1974 by Keswani. These works hardly explore the state of diseases and health in ancient India.

In the category of scientific narratives of Ayurveda, a recent publication of Zimmermann (1987) may also be noted. The core of his monograph, chapters four through eight, analyzes the classifications of animals and animal products used as medicine and prescribed in the ancient texts of Charaka, Susruta and Vagbhata.

Likewise, articles in periodicals like Indian Journal of History of Sciences, Indian Journal of History of Medicine, or Bulletin of Indian Institute of History of Medicine or other Indian and foreign periodicals are predominantly concerned with the technical aspects of ancient Indian medicine and fail to enlighten the general picture of health and cure in the related time and space. As Kumar (1985:158) informs us, even the earliest journals of ancient Indian medicine were again devoted to the materia medica, pathology, treatment, preparation of drugs, dietetics, etc. It is not only strange but unfortunate to discover that studies on the historical significance of medicine and its practice are exceedingly rare. In place of dealing the history of medicine these periodicals seem to relate rather to the medicine of history involving topics like methods of sterilization in the Atharvaveda (Roy 1966); anatomy in Vedic literature (Roy 1967); methods of contraception in ancient India (Dash and Basu 1968); Charaka and Susruta on sleep (Chattopadhyaya 1969); digestion and metabolism in Ayurveda (Nath 1969); mental health (Verma 1974); Ayurvedic concept of psychosomatic basis of health and disease (Singh and Sinha 1976); emergency medicine in ancient India (Singh and Bajpai 1980) and methodology of science and Charaka (Sekhavat 1984). Even in the proceedings of the Indian History Congress the theme has been repeated (Mitra 1968). The outlook of the vernacular journals on the history of medicine is also not different.

Among the works prepared on the South Indian system of Siddha and other medicines the dominance of technical studies continues unabated. Two such works on Yogic and Tantric systems and folk medicine have already been referred to above (Jaggi : 1973a; 1973b). Of these the former only presents scientific introduction to these systems without discussing historical development of Yoga in India. The latter is essentially a work of anthropology interesting enough in content, but again with emphasis on only facts and figures with neither methodology nor direction. Similar is the approach of Devaraj (1972) who authored a short book on Kerala Pancha Karma medicine. Neenvathi (1979) narrates the Siddha system in the same fashion but adds a list of the medical authorities of this system. Historical examination of Siddha theorists is presented neither in this paper nor in the independent book on this theme by Iyer (1933). This has been, however, briefly discussed in the papers by Gurusiromani (1983) and Krishnamurthy and Mouli (1984). Another paper by Ganapathiraman
(1980) is confined only to the fundamental diagnostic methods in Siddha system. Coming back to the folk system, reference must be made to two successful papers of Boding (1925) who studied Santhal medicine, and Hemalatha and Reddy (1982) who worked on folk medicine in Andhra Pradesh. Combined together these works offer valuable insights into the non-Ayurvedic dimension of the medical system in India.

Among other subjects studied in the field of ancient Indian medicine, philosophy appears to be major one. Stress on the philosophical aspect of Indian medicine was but a natural outcome of the notion of otherworldliness of ancient Indians developed as a stereotype by conventional historiography. Since material growth of Indian medicine appeared incomparable with the alleged otherworldliness of ancient Indian social life, attempts were made to explain their harmonious coexistence (Zimmer 1948). Some scholars felt that the two were ever in arms against each other (Chattopadhyayay 1977 in particular and Gupta 1954 in general). On the other hand, European scholars, patron of the theory of interrelationship of Greek medicine with Ionian, Epicrean and Platonic philosophies (Rahman 1977:28), convinced themselves that the philosophy of Samkhya and Vaisesika initiated rationalism in Indian medicine. The nationalist scholars supported this view. Therefore, the supposedly essential nexus between Samkhya-Vaisesika philosophy and progress of medicine remained an unchallenged and a seriously discussed fact in all sorts of historiographical works on ancient Indian medicine. Most of these works devote considerable attention to this discussion, which is also the case with the majority of other works noted below. Kushvaha (1986) has authored an independent work on the relationship between Sāmkhya philosophy and Ayurveda. Another monograph, of Tripathi (1987), explores the links between the Nyāya philosophy and Charaka. The major drawback of such a discussion lies in the fact that it hardly examines the practice of medicine through behavioural approach and overexaggerates the debt of the Nyāya-Vaiśeṣika philosophy on Ayurveda.

The religious aspect of ancient Indian medicine also constituted a popular theme in its historiography. Jayne's article (1925) on the healing gods has already been referred to. She has made a painstaking effort to account not only of such medical deities as Ās'vins or Dhanvantari but also of those supposedly functioning as healer, like Āditya, Brahmā, Indra and Varuna or Vāyu among others. A comparatively new paper by Zysk (1989) is significant in understanding mantras i.e. ritualistic spells in Ayurveda. Similar is the paper of Rose (1987) who has discussed the magic squares in Ayurvedic system. A paper on Dhanvantari in Indian literature by Rao (1972) may also be mentioned.

The extant historiography of ancient Indian medicine also contains some works which may be judged as 'compartmentalistic' studies. Methodologically they remain confined mainly to the compilation of scientific materials of Ayurveda available in different sources. Nonetheless, their contribution to historiography is significant as they did study the Ayurvedic texts as well as connected literature. Mention should also be made of the book of Joshi (1973) on medicine in the epic Ramayana and a small
paper by Jain (1978) who dwelt upon medical references in the \textit{Aṣṭāḥṣāṭī}, a grammar-book of 5th century BC. Both of these works offer useful materials. The study of Bhatanagar (1984) on what he considers as Jaina Ayurveda collects useful materials from \textit{Agam} literature and contains valuable narrative of different medical practitioners and theorists who professed Jaina religion. Mention here may also be made to the report of Jain (1978) on the medical texts authored by the Jainist writers.

DVSR. Reddy adopted a social and historical approach. His studies on health and medicine during the Buddhist times (1962) and the Mauryan age (1966) provide new perspectives to the historiography of medicine. The latter is largely based on the \textit{Arthaśāstra}. But both the monographs are very small. Another article by Reddy (1978) on Ayurvedic material in the \textit{Divyavadāna}, Buddhist text is, however, not a remarkable one.

Though Mitra (1985) has produced an independent book on Ayurvedic material in Buddhist literature, he could not further the domain already covered by Reddy. In fact, the work is no less concerned with non-Buddhist literature. This is the case also with the small jacket of Haldar (1977) who intended to report on medical science in Pali literature. While Mitra arranges Ayurvedic materials under the traditional eight parts of Ayurveda, Haldar’s book seems to be more interested in such subjects as medicine and surgery in Pali literature, method of abortion and so on. Mitra’s interest in scientific aspect of ancient Indian medicine is also evident from his paper on the \textit{Pañcika-Mahābhūta} and \textit{Tridosha} as depicted in the Buddhist \textit{Tripitakas} (1978). Zysk’s monograph (1991) is, however, an outstanding work on the relationship between Buddhism and rise of the classical Indian medicine.

Another paper jointly prepared by Mitra and Gupta (1967) on military medicine in ancient India covers a useful topic in historiography. Mitra’s small monograph (66 pages) on history of medicine from Pre-Mauryan to Kushana period (1974) is work of average standard. Strangely enough, it does not discuss how this particular phase of history stands as a variable in growth of history of medicine in India - which is so relevant a topic for this chronology. Another chronological presentation of the history of medicine is related to the Gupta period. Authored by Sharma (1972) this reflects a standard analysis of the literature of the Gupta age. One is particularly impressed by Sharma’s painstaking endeavour to discover references to as many as 429 medicinal plants in different \textit{Puranas} and in the works by Kalidasa.

As regards studies on the situation of ancient Indian medicine in the world setting, its relationship with Greece has been studied elaborately as noted above. Reference may be made to the paper by Filliozat (ref. 1981) on Ayurveda and foreign contacts. Kutumbiah author of the \textit{Ancient Indian Medicine}, has also taken note of relationship between ancient Chinese and Indian views on longevity (1966). Two good papers by Mahdihassan cover useful topics on \textit{Triphala} and its Arabic and Chinese synonyms (1978) and on \textit{Tridosha} doctrine and the constituents of Chinese humorology (1984). A successful paper on the historical relationship between the Indian and the Chinese medicines is the
one written by Unschuld (1979). He dwells at length upon how both Buddhism and with it the Indian medicine spread in China with the decline of the Eastern Han dynasty (25-220) (p.334). In comparison to its Chinese counterpart, ancient Indian medicine was closer to the Tibetan system. Kunzang's monograph (1973) narrates how Tibetan kings sent their physicians to learn medicine from India. Similarly, Dash (1976) reports on the contribution of *Yoga Śataka*, an Indian text of the 4th century AD to the development of Tibetan medicine and psychiatry. It would have been very interesting to read the spread of ancient Indian medicine in the southeast Asian countries in which Indian cultural elements were noticeably present. It may be noted that the epigraphic records of Jayavarman VII (1181-1281) testify to the establishment of Ayurvedic hospitals in Cambodia. Ayurvedic topics have been reflected in the ancient Indo-Javanese literature. But historiography of ancient Indian medicine perhaps still awaits serious independent studies in the field.

The above accounts, however, make it explicit that several generations of scholars have made valuable contributions to the field of ancient Indian medicine. They did most of the spade work, made sources available, and by looking at medicine through different angles put across interesting points of view. But their approach to ancient Indian medicine remained uncritical and ahistorical. Medical treatises were read for their contents regardless of the date in which they were composed. It remained artificial by being cut off from the general frame of history. To complete our historical understanding of the past, it was necessary not only to report on the achievements of ancient Indian medicine but also to examine its relevance to the masses of the country. In so far as the narrative part of medical science is concerned, writers have looked into all the nooks and corners of the subject but they have made little efforts to explore the extent to which it was in application for the benefit of the people in general. There are but a few studies on the social aspect of medicine.

In this group probably the greatest name would be that of Sigerist. His contribution to the historiography of medicine can hardly be equalled. Numerous papers and books authored by him treat the medicine of past with an intricacy of detail and systematic comprehensions. In his treatment of the medicine of ancient civilizations, Sigerist drew upon the entire range of their literature including those pertaining to religion, magic and administration as well as their purely medical writings and interpreted them with the help of his own unique combination of medical knowledge and experience. Sigerist aimed to discuss the medicine from the angle of historical sociology as reflected from his paper *Sociology of Medicine* (1960) and his monograph on civilization and diseases (1945). His two volumes (1951 and 1961) are indispensable for students working in the field of medical history. The second volume of this monumental study deals with the Vedic medicine of ancient India. Among other topics it takes account of possible diseases in ancient Indian society, various philosophic schools of early India and their relation with Greece in scientific and historical perspectives.
The major shortcomings of his approach include the overemphasis on Indian traditions of otherworldliness. At one place the scholar opines that (in case of droughts) an Indian may lie down and die of starvation in front of food-stores (of the opulents) without rebelling (1961:134). Similarly, there is excessive stress on the description of Indian philosophies. Unwarranted comparison to Greek medicine and repeated emphasis on poverty of scientific zeal in ancient Indian society (supposedly due to racial and climatic reasons) are also among the demerits of these volumes which are dedicated to the 'Hippocratic tradition in medicine'.

The monograph of Vidyalankar (1976) is a successful work combining general history with the evolution and practice of medicine in India. The treatment of the system of medical studies in ancient India in this book serves as a valuable reading. Almost equally useful is the book by Sharma (1981) on the history of Ayurveda. The short book of Vakil (1966) is another satisfactory study in this direction. It also covers the possible specializations in ancient Indian medical studies. A recent work by Rao (1985) serves a valuable historical perspective. Mention may also be made to the two small papers by Swamy (1978) and Bagchi (1979) which are chronological studies of the development of ancient Indian medicine. Linking the growth of medicine in India with urbanization is also a valuable issue raised by Nath (1970). A small write-up of Raghunathan (1984) has cast light on the myths and history of the Siddha system. In this group of social studies may be included the paper of Murthy (1971) on the refusal of patients for therapy in ancient India, and of Menon and Haberman (1970) on cultural significance of the oath of medical students in ancient India. A small paper by Basham (1976), the doyen of ancient Indian historical studies, presents a highly readable account on a number of topics including medical training and social status of physicians in ancient India.

In the beginning we observed that the historiography of medicine in India lags behind the advance made elsewhere. While in the west, the number of scholars in the field from non-medical science background has grown considerably during the last 45 years, the Indian historiography of medicine is still dominated by scholars basically from medical sciences. Historians involved in this field are exceedingly few in number, the two striking exceptions being Majumdar (1971) and Basham (1976).

Major studies have been produced on medical history in respect of other countries. Some of these studies may serve as great stimulus to students interested in the field. The most prominent among such works is definitely the voluminous study by Joseph Needham on sciences in China. The recent works of Jackson (1988) on doctors and diseases in the Roman empire, and of Gremen (1989) on diseases in the ancient Greek world also launch a challenge to attempt serious study on similar context of ancient India. The western historiography of medicine is broadening its scope through essays of Ibanez (1958) and report of Clarke (1971). The bibliographical accounts of medical history are also progressing there speedily. One is particularly amazed to finger through such collections as the one edited by Corsi and Weindling (1983). Though chiefly oriented to a western background, Corsi's work contains perhaps the largest bibliography of ancient Indian medicine.
Climatic, environmental and demographic contexts

Until recently, it had been held that cultural innovations in India could be paralleled by changes of racial or biological sort in prehistoric populations, be the innovated article a metal tool, a pottery-style, or a complex burial system. As Kennedy (1982:48) highlights, today such antiquarian views cannot find support with the recognition that cultural ideas and institutions are diffused across temporal and geographical lines. Extensive skeleton studies suggest that heterogeneity of body form, morphometric variables, immunological traits and so forth is the rule among early historic populations as it is among contemporary groups extending from the Himalayas to southern tip of Sri Lanka.

The conventional classification of ancient human types defined by Guha (1931) and others as 'Mediterranean' and 'Proto-Australoid' have been used so loosely by anthropologists that they have lost all precise significance (Sarkar 1972: 294). The skeletal remains of Harappa which provide us with the direct avenue for temporal studies of man in ancient India suggest a population group consisting of more than one so-called pure race types, together with their hybrid varieties (Dutta 1981:28). As regards the Aryans, archaeological evidence of these people is questionable and the skeletal substantiation is nil. Even if one is presented with an 'Aryan' skeleton, how should he be able to identify it? It is reasonable to conclude that there are climatological and evolutionary mechanisms other than those of gene migration and regional gene mutation that were operative among wide-ranging Indian population in the ages of antiquity and, therefore, the diversity of ecological zones in the sub-continent could have been instrumental in producing typological complexity in ancient Indian societies. Thus, one has to rethink the application of racial types to classify castes and other communities of India on conventional fashion formulated by scholars including Risley who suggested that the upper castes of India belonged to the Caucasoid type while the greater segments of its population belonged to the Proto-Australoid type only (Singh 1992:71).

Today the Indian sub-continent has the second largest tribal population in the world, next only to Africa. Apart from the congenial attitude of the dominant cultures in the country, the ancestors of modern Santhals, Bhils, Gonds and other population groups could retain their selfhood by dint of geographical circumstances. The major tribal concentrations in India have been in the hilly, forested or semi-arid areas which are largely negative from the point of agriculture. Naturally, ancient agrarian communities like one reflected through Rigvedic literature were not curious enough to invade the tribal pockets.

As regards the locales of the ancestors of modern tribals, the dominant historiography suggests that previously the Santhals, Mundas, Bhils and other population groups resided in plain areas from where they were driven away by successive waves of migrants called Dravidians and the Aryans. However, this theory may need a restudy since the tribal economy everywhere in the world has been
predominantly non-agrarian. We know that prior to Neolithic social system no human population could afford to reside away from the hills. It is only after the domestication of animals and plants that the primitives could lead life in the plains. Thus, it is difficult to hold that the hilly tracts in the Indian sub-continent were peopled only through the forced migration subsequent to ‘invasion’ of the Dravidians or the Aryans. In addition, ethnography of the primitives who have been recently incorporated into agrarian set-ups (Sahlin 1972:27; Endicott 1988:126) suggests that behaviourally the primitive populations are much disinclined to remodel their traditional non-agricultural mode of production. Therefore, it was probable that a considerable part of ancient population did not opt to pursue agrarian activities. And it is more likely that the major tribal groups of modern days are descendants of those social groups which have been residing more or less around their present settlements since oldest days. Their ancestral connections are probably traceable through mesolithic skeletal remains at Bagore (Rajasthan) and Langhnaj (Gujarat) (Kennedy 1984:30) and other places.

The census records which enumerated tribals separately for the first time in 1891 suggested that they consisted of a 6.8% of the total population in British India that included Pakistan and Bangladesh. The latest demographic statistics suggest that their numerical strength has lowered by one percent during the last century. It seems that the long series of detribalization during the ancient and medieval periods coupled with the fact that the intra-breeding groups like tribals register a lower growth-rate have tended to minimize their numerical strength. And, therefore, it may be suggested that during the early Christian centuries, ancestors of Bhils, Santhals, Gonds, Mundas and other modern tribals consisted of the two-thirds of the total Indian demography.

The last caste-community census held in 1931 as deliberated upon by the Mandal Commission (1980:235) appointed by the Indian Govt. categorises the country’s population to consist of approximately the following:

- Tribals - 7 per cent
- Depressed castes (i.e. scheduled castes) - 15 per cent
- Backward castes - 52 per cent
- Upper castes - 26 per cent

These figures reveal a very significant sociological fact. In no society the upper strata has been recorded to be as numerous as 26% of the total population. The present numerical strength of Indian upper castes as well as the under-strength of the depressed castes (15 per cent) is explainable only through the theory of upward mobility in ancient Indian caste-hierarchy. In all probability, notwithstanding the canonical restrictions, avenues to the upper strata of Brahmanical society were open in ancient times for all segments of population be it Greek, Shaka, Kushana, and Huna migrants or the forefathers of present day Bhils, Gonds, Santhals, and Mundas and the like.
Notices of isolated human settlements discovered in the earliest literature of the country. They begin right from the Rigvedic phase and compose a very fascinating field of an independent research. Further studies may reveal a correlation between the modern tribals and the communities which have been noted in Sanskrit literature as the Nāgas, Sabaras, Bhillas, Niṣadas, Gāndharvas, Kirātas and many others. Apparently, some of these groups did reside in very isolated places like Mizoram and the Andaman Islands. Partly because of the fact that they were deprived of diverse natural resource-base and partly because their interaction with the mainstream Indian culture remained largely hindered, these communities could not grow complex in terms of science and culture. The situation of the primitive communities residing in continental parts was, however, dissimilar. The regular correspondence to the larger settlements helped them acquire a stage more developed in terms of science than that of the isolated groups. As such the ethnological data prove profitable to trace the successive development of ancient Indian medicine.

About the size of population, it may be noted that the low level of longevity combined with lower nutritional standards which delays the arrival of puberty produced severe check in demographic growth during stone-ages all over the world. Small wonder if the world-population is estimated to be only 3 million during early Holocene (Starr 1937:34). Today the Indian sub-continent houses one-fifth of the total world population. If this was the rule during early ages also figure six hundred thousand may be estimated for Indian population in the time of its first neolithic culture.

The ancient Indian states apparently organized official census activities (Arthasastra 2.35.5; Hathigumbha inscription of 1st century BC, which refers to the population of the ancient Orissa to be 350 thousand: Goyal 1982:316). However, the earliest census record comes from 1881 only. It covered the entire sub-continent and recorded its population as slightly over 235 million. Besides this statistics, one may estimate population of ancient India on basis of literary and archaeological data. The 5th century BC Greek historian Herodotus was under the impression that the population of the Indians was by far the greatest of all nations (McCrindle 1901:1). Another information pertaining to the great populational strength of India is the report of Megasthenes who recorded that the Mauryan army employed more than 650 thousand individuals (McCrindle 1876:141). This may be accepted as fairly objective since the epigraphic reports on Kalinga war in the eighth year of Ashoka Maurya's reign register tragedies of more than 400 thousand men.

The size of the army has been accepted as basis to estimate the ancient Indian population by scholars like Dutta (1962). However, there is great probability of numerical exaggeration by the Greeks and they might have tended to maximize the strength of the Mauryan army in order to defend the defeat suffered by them at the hands of the latter. A perusal of the Arthasastra, the book on polity which was largely composed during the Mauryan period does not create an impression of enormous army in existence during the period in question. As regards the statistics of the Ashokan edicts, they
are to be analysed under three considerations. Firstly, there might have been 'certain degree of misinformation on the king's part because he must have relied on the accounts supplied by his victorious generals. Secondly, the casualties reported in the petrograph pertained to both sides and the war seems to have been a prolonged one in view of the toughest resistance offered by the Kalingans - known for their bravery and love for freedom. Finally, the emperor might have been inspired by motive to justify his conversion (following the war) to Buddhism and his decision that the sound of the Mauryan drum was no longer to be taken as a signal to violence of war but a clarion call to moral exertion.

Moreland's calculation which has been acceptable to a number of scholars gives the figure of 100 million for the population at the time of Akbar (Thapar 1966:27). The later Gupta-age monk Buddhaghosha has preserved an ancient Buddhist tradition that the Shakya-sage had eighty thousand families of relatives on his father's side and the same on his mother's line. Allowing six to seven individuals to each family, Davids (1902:18) thought it reasonable to prescribe a population of one million for the Shakya territory. Buddhist and Brahmanic sources narrate 16 major provinces in existence in India around the birth of Buddha. This narrative does not include the Shakyas. Supposing that the 16 provinces amounted to a double of the Shakya in demography, one may come to the figure of 36 million for the 6th century BC India. It would also be advisable to add another seven millions to this number since the above narrative excludes southern Indian regions which usually register a one-fifth of the total population in the country.

The populational strength in ancient India probably remained affected by the attitude to the concept of family planning. In the Mahābhārata (1.122.77) a woman bearing forth her fourth issue has been severely condemned. The mother of the Pandava princes, Kunti quotes ancient scriptures to state that one should not produce his fourth issue even in a great emergency. On the other hand, abortion was also subjected to immense contempt and legal punishment (Gautama Dharma Sūtra 3.3.9; Arthasastra 3.20.17, Jātakas 530.5.275).

However, the tendency to procure more and more children, remained dominant throughout the ancient period. It was owing to the higher rate of child mortality and partly due to the economic advantages of more offsprings for the poor sections of society. But the role of the universal desire for a male child cannot be ruled out altogether. The difference with which the news of male and female delivery was received is most plainly exposed in one of the Jātaka stories where a king gave a signet ring off his finger to his pregnant beloved and dismissed her with these words: 'if it be a girl, spend this ring on her nurture, but if it be a boy, bring the ring and the child both to me' (7.1.134). The Arthasastra (3.2.39), which allows remarriage of a man if his wife fails to produce a male issue, at one place (3.2.42) states that the women are only for getting sons. In the epic Mahābhārata (1.158.11), it
is stated that while son was one's own soul and wife a great friend, the daughter was but a great trouble only. On the other hand, it was supposed that the deceased forefathers remained in great distress if one of their descendants did not have a son to perform the death-rites called 'Śradha' (Raghuvamśa 1.67). It was believed that a son liberated his parents from certain hell named 'Pūta' (Rāmāyaṇa 2.99.12). There was a great merit in going to Gaya to perform the 'Śradha' rituals. Therefore, it is suggested in the Rāmāyaṇa (2.99.13) that one should desire many a son, so that any of them could go to Gaya to perform this ritual. According to Manu (3.11), even the marriage of a girl was difficult if she had no brother. Though we have certain records demonstrating great favour to female issues (Āpastamba Gṛhya Sutra 2.4.12; Śatapatha Brāhmaṇa 14.9.4.16; Mahābhārata 1.115.10; 1.156.38), all the above provisions created the ideological background for the unpopularity of family planning in orthodox circles of the country.

About the male-female ratio in ancient India again we know nothing concrete. The 260 skeletons unearthed at Harappa suggest the overall sex ratio as 122 - an excess of females over males (Dutta 1981: 21). The chalcolithic settlements of Inamgaon near Pune reflect a 102/100 ratio (Lukacs and Walimbe 1986: Statistical tables). The greater percentage of female population in the extreme south Indian regions today is perhaps an age-old feature since the 4th century BC Greek traveller Megasthenes reported that all over India the Pandia (Tamil Nadu) was the only state dominated by the females (McCrindle 1876:150).

The geographical surroundings, particularly its vegetational aspect have a great impact on the health profile. The forest in the neighbourhood increases the comfort of people, while deforestation results in a gradual decline of human and animal health status. As regards the question of forests in ancient India, their existence has evidently undergone a number of adverse changes. According to the data available from the year 1985 the distribution of land in India appeared as below:

<table>
<thead>
<tr>
<th>Land Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural coverage</td>
<td>47%</td>
</tr>
<tr>
<td>Forests</td>
<td>22.7%</td>
</tr>
<tr>
<td>Uncultivated land</td>
<td>13.3%</td>
</tr>
<tr>
<td>Non-agricultural land</td>
<td>6.3%</td>
</tr>
<tr>
<td>Barren soil</td>
<td>11.7%</td>
</tr>
</tbody>
</table>

(India 1985:138)

In the case of Pakistan which forms part of the present study we have the following break up: agricultural land 26%, forests and semi-forests 10%, deserts and mountainous sectors 64% (Anantapadmanabhan 1989: Appendix IV).
Sources:
Present day topographic records
References to forests in ancient literature
References to ancient townships
The situation of the yore was obviously entirely different. The existence of a multitude of forests in ancient India is strongly supported by reference to numerous jungles in its literature. Major ancient forests as noticed included:

- **Andha** - near Sravasti, U.P. (Law 1954:110)
- **Chitrakūta** - near the Dandaka forest (Raghuvaṃśa 12.9)
- **Dandaka** - near Vindhya (Rāmāyaṇa 1.1.46)
- **Dvaita** - near Delhi (Law 1954:128)
- **Kalaka** - near Rājmahal hills, Bihar (Mahābhāṣya 2.4.10)
- **Khāndava** - in Delhi region (Mahābhārata 1.221.27)
- **Kuru Jangala** - on banks of Yamuna in Haryana (Mahābhārata 3.5.3)
- **Mahā** - near Kapilvastu (Law 1954:178)
- **Naimiṣa** - near Lucknow (Raghuvaṃśa 19.2)
- **Panchavati** - on banks of Godāvari (Rāmāyaṇa 1.1.47)

The plenitude of forests in ancient times is attested by several other evidences. The second century BC text *Mahābhāṣya* (5.1.77) tells that it was common for traders to cross wilderness. A *Mahābhārata* (1.175.2) passage suggests that the state-capitals were usually located near the jungles. The system of forest-exile for long years as found in the epics and elsewhere was practically possible on the event of a multitude of the woods only. Besides, a number of traditional lores relate to the heroic achievements made in the forests.

The common forest environing cast singular influence on ancient social life in a measure beyond imagination. From health point of view it brought advantages in the form of purer air and water which are so vital. Though there are certain cases of burning of jungles (Mahābhārata 1.226), generally precautions were taken to conserve forests (Viṣṇu Purāṇa 2.6.26; Pāraskar Grhya Śūtra 2.5.10) and planting a tree was considered one of the most virtuous acts (Mahābhārata 12.58.24).

**Growth of medicine and health problems in ancient India**

The present study views that in all likelihood, the development of ancient Indian medicine reflects four phases which could be referred to with some subtler distinction, as the birth of medicine, the phase of sorcerers, the phase of curers and finally, the phase of doctors, each shading into the next. In a gradual development these sections record the history of medicine from the earliest time to the close of 3rd century AD. These sections have been so named as to underline the dominant ideology about the nature of illness, the process of diagnosis and therapeutic interventions. I stress on
'dominant' ideology because history of medicine in Indian societies or elsewhere has not been characterized by simple linear succession of one system of medicine by the other. The above phases were partly overlapping and partly antagonistic. New ideas were developed from within or introduced from without and adopted by different professionals while at the same time older views continued to have their practitioners as well as clients. Thus, the history of medicine is not hemmed in by the conventional chronological divisions and straddles the canonical boundary between the ancient regime and the recent periods.

As observed in the following pages, the birth of medicine relates to the primordial stage of human society. The second phase is marked by sorcery coinciding with the growth of individual ownership. This phase was gradually succeeded by the dominance of the 'curers' with the maturity of agrarian system. The final phase under our discussion pertains mainly to the new conditions under full-fledged urbanization and evolution of the middle-class in ancient India. Demographically, the earliest stage had a universal scope. The sorcery phase orbited almost an identical population barring some minor pockets. The third had had a clientele only over the agricultural society. The final stage had a further limited following. Nevertheless, all these levels of medicines interacted with each other and often shared a common clientele.

As regards the chronological settings, the evidences detailed in the following pages suggest that the phase of the birth of medicine related to the age prior to the 7,000 BC. The period between seven to five thousand BC marked the growth of the phase of sorcery which remained dominant as per our estimates, to 1,200 BC. From that period onwards differences and gaps enlarged between the medicine-systems of various population groups because of the emerging diversity in their resource-patterns. From this date, certain communities opted for agricultural system, some groups retained their old system of hunting-gathering while certain other population groups bordered between the two. I have preferred to call the first population-group as 'historical', the next group as 'primitive', and the third one as 'tribals'. The system of health-care among the historical populations advanced rather speedily. On the other hand, the primitive and tribal systems of medicine moved slowly.

It is easily understandable that in the past 10,000 years great social and cultural changes created fundamentally different relationships between humankind and the environment. The advent of agriculture, the domestication of animals and finally, the development of urban centres had a significant impact on health and medical needs of the people.

Innovations associated with agriculture such as irrigation greatly heightened exposure to some infectious diseases. Plowing the soil itself probably increased the risk of acquiring fungal diseases. Sedentary community, unlike hunting and gathering societies which usually changed their living areas often, lived amid their own detritus with its inherent risk of causing morbidity. The domestication of
animals brought the potential of contracting animalborne diseases. Besides, infectious diseases related to bacteria, fungi, viruses and multi cellular parasites may have also become a great problem for human groups after the domestication of animals which are common vectors of diseases associated with these organisms. As studies reveal, proximity to domestic animals, particularly bovids has been a significant factor in development of tuberculosis (Manchester 1984). Similarly, airborne viruses which implicate large host population may have become a significant health problem with urbanism. Urban centres produced increased population densities and a greater likelihood of exposure to dropletborne infectious agents. Extended trade and commerce, activities associated with urban society definitely enhanced the spread of infectious organisms between geographical areas. [Mosquitoes i.e. the mašakas, which are related to a number of ailments obtain only a single notice in the Vedic texts (Atharva Veda 7.58.3). But they are frequently mentioned in post-urbanization works like Mahābhārata (3.141.28); Jātakas (44.1.246); Chārudatta (1.7) and Manusmṛti (1.45)].

However, it must be emphasized that the transitions between hunter-gatherer, agricultural and urban societies occurred at various times in different areas of the Indian sub-continent. Consequently, at a specific point of time the health problems encountered by the human populations in different areas were varied. In addition, the relationship between human beings and disease is continually evolving. Over time the virulence of infectious organisms tends to become attenuated while the human host population tends to evolve a more effective immune response to them. The implication of these two trends is that with the passage of time a given disease is likely to become a less serious threat to life and develop a more chronic pathogenesis.

Diseases reflected through the Vedic texts are less in number. However, it may be because of the rudimentary stage of the classification of morbidity at that time and partly because it is predominately a religious literature. A review of the diseases prevalent and noticed in the Vedic age is further hampered as the pathological conditions described are most ambiguous.

For example, it could not be clear what kind of disease the term ‘kṣhetriya’ denoted. As a pathological condition this has been mentioned several times in the Atharva Veda (2.8.2; 2.14.5). The commentators on the text agree in taking it to be a hereditary disease. It may indicate ‘scrofula’ or ‘syphilis’ or something like it. The remedies mentioned throw no light on the symptoms. ‘Takman’ is a disease repeatedly mentioned in the Atharva Veda (1.25; 5.22; 6.20) but later literary texts do not demonstrate familiarity with this name. It was probably connected with ‘fever’. ‘Pāman’ in Atharva Veda (5.22.12) appears to be the name of a skin disease. Similarly ‘prstyaṃaya’ (Atharva Veda 19.34.10) referred to pain in the sides or ribs. ‘Balāsa’ mentioned several times in the Atharva Veda (5.22.12; 6.14.2) probably denoted ‘consumption’. ‘Yakṣhmā’ (Ṛg Veda 1.122.9; Atharva Veda 2.10.5; 9.8.20) denotes ‘illness’ in general. A hundred kinds of yakṣhmā are referred to in the Vājasaneyī Samhitā (12.97) and ‘a-yakṣhmā’ in the Kāthaka Samhitā (1.11) denotes one ‘free from diseases’.
'Apūā' as reported in the *Atharva Veda* (9.8.9) was a disease affecting the stomach, possibly dysentery. 'Ālājī' has been reported as disease related to eye (ib. 9.8.20). 'Āśrava' denotes a disease (ib. 1.2.4, 2.3.5) the precise nature of which is uncertain. 'Kūs' has been mentioned in the *Atharva Veda* as cough which appeared with headache (1.12.3), fever (5.22.10) or independently (6.105.1). Finally, may be noted the 'kālāsa' which signified the cases of 'white leprosy' (ib. 1.23.4). 'Roga' is a term which related to diseases in general (ib. 1.2.4; 2.3.3; 3.28.5). 'Āmayā' was another term for this. References to 'kīrāgamaya' (diseases of the head) (ib. 5.4.10; 9.8.1) and 'hrdayamaya' (diseases of the heart) (ib. 6.14) are noted.

The pathological conditions occurring in later works like the *Rāmāyaṇa*, *Aśṭādhyāyī*, *Arthaśāstra*, *Mahābhārata* are only about 50 in number. The 2nd century BC text *Milinda Pañho* (4.1.16) contains references to 98 diseases. The classical texts of Ayurveda, however, mention more than one thousand types of illness.

As regards the pathological profile in ancient India, tuberculosis which victimised about 1.5 per cent of the country's population till recently (*India 1985:148*), must have been the chief medical problem in the past also. There are numerous references to this ailment in non-medical books of the antiquity.

The problems related to the delivery of babies were, however, of greater concern. Diseases of pregnancy and child birth have occupied a considerable portion in the treatises of Charaka (4.8) and *Susruta* (3.3; 3.10). These diseases are mentioned frequently in ancient works like *Atharva Veda* (2.25.3) and the *Mahābhārata* (6.10.8). The severe rate of infant mortality in ancient India could be underlined with the fact that the law codes prescribe provisions of burial instead of the common practice of cremation for children dying before ten. The death-rituals pertaining to the minors are very simple in comparison to normal rites (*Pāraskar Gṛhya Sutra* 3.10.9; *Yaśñavalkya Smṛti* 3.1). The high rate of infant mortality in ancient India could be assessed through certain provisions in the *Arthaśāstra* (3.2.39) which allow separation from a wife delivering dead issues repeatedly. In modern days also the casualties owing to neo-natal and post-natal ailments have largest share in the under-five mortality figures of the country. The under-five mortality rate is, as reported recently, as high as 11.8 per cent in the country (*Anantapadmanabhan 1989: Appendix III*). The situation in the past must have been grimmer.

Another major ailment was 'kūśṭha' or leprosy which is reported to plague as many as fifty seven individuals out of every 10 thousand in our own days (*India 1985: 148*). References to this disease are in plenty in the variety of ancient texts like the *Atharva Veda* (1.23.1), *Arthaśāstra* (3.11.29), *Jātakas* (516.5.69) and in the works of *Pāṇini* (8.3.97) and Manu (11.49). The medical text *Charaka Samhita* (6.7.178) mentions many types of leprosy.
A clear-cut mention of malaria which presented a grave health-problem till recently (Sigerist 1961:128) is untraceable in ancient literature. It might have been included among the different classes of fevers cited in the treatises of Charaka (6.3) and Suśruta (6.39). Similarly 'kālā azār' or 'deadly fever' which constitutes one of the major health problems in modern days (India 1985:148) is also not specifically mentioned in the early texts. It can only be presumed that the different types of 'jvaras' included kālā azār too. Some of them must have been fatal enough, otherwise Bharata the prince of Ayodhya would not have wished that who ever had caused his brother Rama to go to forest be a prey to 'jvara' (Rāmāyaṇa 2.69.28).

Another serious health-problem was snake-bite. Since the forest-coverage of India in the past was much greater than now, and often surrounded habitational areas, snake-bite was extremely common. There are countless references to cases of snake-bite in the ancient literary texts. The author of the Arthaśāstra (2.5.6) prescribes that all the buildings should be provided with remedies against poison.

The other prominent front requiring the aid of physicians and surgeons was the battle-field (Mahābhārata 6.46.38). The magnitude of this problem may be gauged from the fact that as many as 150 thousand men were reported maimed in the battle of Kalinga in the 3rd century BC. Amputation of limbs as a punitive measure (McCrindle 1876:72; Manu Smṛti 8.269) would have also necessitated a fair knowledge in the art of surgery and medicine, otherwise these penalties could be considered as capital punishment, which was certainly not the case.

According to contemporary records every fifth Indian is suffering from blindness (India 1975:148). The problem of vision was probably not of a much serious concern in the past because neither the medical texts nor other books refer to this on any significant scale. The other common ailments of the antiquity in India seem to be 'viṣuchikū' (choleric diarrhoea) (Charaka Samhitā 3.2.14), 'galganda' (goitre) (ib. 6.12.76), 'antra vṛkdi' (hernia) (ib. 6.12.94), 'apsmāra' (epilepsy) (ib. 6.10.3), 'arṣa' (haemorrhoids) (ib. 6.14.7), 'attisa' (dysentery) (ib.6.19.4), 'dhanustambha' (tetanus) (ib. 1.20.14), 'sannipāt' (typhoid) (ib. 1.17.41), 'madhumeha' (diabetes) (ib. 2.4.44), 'pāndu-rogā' (jaundice) (ib. 6.16.7), 'slipada' (elephantisis) (ib. 6.12.98), 'kacchipāka' (carbuncle) (ib. 1.17.85), 'sarwāṅgaroga' (paralysis) (ib. 6.28.29), 'Vātabalās' (rheumatism (ib. 6.29.11), and cough (ib.6.18.2). The classical texts of Ayurveda also refer to certain tumours. Based on their details, some scholars argue the prevalence of cancer in ancient India (Mukherji and Chakrabarti 1968:70). The commonness of different heart disease is also known through the passages in the texts of Charaka (1.17.30).

As for mental diseases, the Ayurvedic texts involve a great deal of them. Fifteen types of insanity ('unmāda') are described in the texts of Charaka (6.9) and Suśruta (6.62.3). Cases of suicide are reported in a few ancient texts (Rāmāyaṇa 6.104.18; Milinda Pañho 4.4.14). However, there is no
proof to relate all these instances of suicide to mental illness. Among prevalent mental cases in ancient India may be noted habits of lesbianism (Mahābhārata 12.38.22) as well as beartility (Gautama Dharma Sūtra 3.4.36; Yajñavalkya Smṛti 2.289; Śuśruta Samhitā 2.12.11).

Pestilence and epidemics were not unknown to the ancients. They have been recognized as one of the major eight threats to the state and kingdom (Arthaśāstra 4.3.1; Tirukkurala 74.4). The Manimekhalai (p.115), an ancient text datable to the early Christian centuries reports that the routine royal announcement in the Chola capital of Madurai ended with prayers that the diseases may cease to invade the kingdom. Another ancient book from south India Śilppadikāram (p.20) refers a similar prayer by the royal courtesans.

Making inquiries into one’s health appears to be conventional practice of greeting in days of antiquity (Āpastamba Dharma Sūtra 1.14.24; Rāmāyaṇa 2.64.7; Jātakas 533.5.348; Majjhima Nikāya 2.47.1; Yaudheya Inscription of 2nd century AD; Goyal 1982:294). People obviously acknowledged health as the greatest reward (Mahābhārata 3.313.74).

However, detailed idea of the pathological requirements and diseases observed by medical practitioners in ancient India may be obtained through the following list as well as connected passages in the Bower Mss.

**Diseases mentioned in the Charaka Samhitā**

<table>
<thead>
<tr>
<th>Name, reference and description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <em>Adhijihva</em> 6.12.77 - Abscess under the tongue</td>
</tr>
<tr>
<td>2. <em>Agnimandya</em> 1.20.17 - Dyspepsia</td>
</tr>
<tr>
<td>4. <em>Aksibhedha</em> 1.20.1 - Squint eye</td>
</tr>
<tr>
<td>5. <em>Aksipāka</em> 1.20.14 - Ophthalmitis</td>
</tr>
<tr>
<td>6. <em>Aksiroga</em> 6.26.130 - Eye-affection (ninety six varieties mentioned, but not described)</td>
</tr>
<tr>
<td>8. Āmadoṣa 3.2.10 - Disorders of chyme formation</td>
</tr>
<tr>
<td>9. <em>Āmlapitta</em> 6.15.47 - Acid dyspepsia</td>
</tr>
<tr>
<td>10. <em>Anāha</em> 6.28.29 - Acute constipation</td>
</tr>
<tr>
<td>11. <em>Anidra</em> 6.28.21 - Insomnia</td>
</tr>
<tr>
<td>12. <em>Āntrāmya</em> 6.28.43 - Stiff neck</td>
</tr>
<tr>
<td>13. Āntrapanavidāha 1.24.14 - Intestinal inflammation</td>
</tr>
</tbody>
</table>
15. Apasmāra 6.10.3 - Epilepsy (five types described)
16. Apatastra 8.9.12 - Convulsions with body-bent like a bow (Tetanus)
17. Arbuda 6.12.87 - Non-suppurating swelling
18. Ardhāvabheda 8.9.74 - Hemicrania
19. Ardita 1.20.11 - Facial paralysis
20. Arochaka 6.26.124 - Anorexia (six types described according to etiology)
21. Arṣa 6.14.7 - Haemorrhoids (seven types described according to etiology)
22. Asmari 6.26.36 - Urinary calculus (two types according to etiology)
23. Asthikshaya 1.17.67 - Atrophy of bones
24. Āṣyaviśāka 1.20.14 - Stomatitis
25. Ataktyābhiniśa 6.10.52 - Psychic epilepsy
26. Atisāra 6.19.4 - Dysentery
   (a) Amatisāra 6.19.70 - Dysentery with mucus discharge
   (b) Raktatīsāra 6.19.70 - Dysentery with blood discharge
      (six other types described according to etiology)
27. Atisthāla 1.21.4 - Excessive obesity
29. Chyutasandhi 6.25.68 - Dislocation
30. Dantabheda 1.20.11 - Dental schism
31. Dantamāmsa Vṛddhi 6.12.78 - Gum-boil
32. Dantaśīthī 1.20.11 - Loose tooth
33. Dhamani pratichāya 1.20.177 - Dilatation of blood vessels
34. Dhanustambha 1.20.14 - Tetanus
35. Durma 1.17.73 - Neurasthenia
36. Ekāngaroga 1.20.11 - Monoplegia
37. Galaganda 6.12.19 - Tumour on the side of the neck
38. Galagpha 1.18.22 - Acute swelling inside throat
39. Galapāka 1.20.14 - Suppurated inflammation in the throat
40. Galaśunḍika 1.18.20 - Tonsilitis
41. Garbhiniroga 4.8.26 - Diseases of pregnancy
42. Grahanidoṣa 6.15.51 - Diarrhoea (four types described)
43. Granthi 6.12.81 - Glandular swelling; varicocele
44. Grdhraśi 1.20.11 - Sciatica
45. Gudābhikā 1.20.11 - Prolapsed anus
46. Gudapāka 1.20.14 - Proctitis of the anus
47. Gulma 6.5.48 - Hardening and swelling of the spleen (six types described)
48. Ḥṛddrava 1.20.11 - Tachycardia
49. Ḥrdrąga 1.17.6 - Heart disease (five types mentioned)
50. Ḥrmomohā 1.20.11 - Cardiac irregularity or heart block
51. Ikṣuvañkarasameha 2.4.10 - Glycosuria
52. Jālakagardabha 6.12.99 - Fever, due to suppuration
53. Janubheda 1.20.11 - Bow legs
54. Ḥanuvīśeṣa 1.20.11 - Knock-knees
55. Jatharāgnivikāra 3.6.12 - Morbid appetite (four types described)
56. Jvara 6.3 - Fever (eight types described)
57. Kakṣā 1.20.14 - Herpes
58. Kanḍū 6.29.17 - Pruritus
59. Karṇaroga 6.26.127 - Diseases of the ear
   (a)  Badhīrya 6.26.128 - Deafness
   (b)  Karṇasopha 6.29.127 - Inflammatory swelling inside ear
   (c)  Karṇaśrva 6.26.127 - Pus discharge from the ear
   (d)  Putiśravana 6.26.127 - Suppuration of the inner ear (also eight other types)
60. Kāsa 6.18 - Chronic cough (five varieties described)
61. Kesābhumisphutanam 1.20.11 - Fissures of the scalp
62. Khalitva 1.5.30 - Baldness
63. Khanjatva 1.20.11 - Lameness
64. Klaivyā 6.30.154 - Impotency of the male
65. Kota 1.24.16 - Localized thickening of muscle-fibres
66. Kīmi 1.19.9 - Parasitic infections (nineteen types)
67. Kośra-Dosa 6.30.237 - Disorder of lactation (eleven types)
68. Kubjatva 1.20.11 - Hunch-back condition
69. Kuṣṭha 6.7 - Chronic skin diseases of 20 types
70. Lalātabheda 1.20.11 - Frontal headache
71. Lingapāka 6.30.168 - Suppuration and sores of the penis
72. Madātyaya 6.24 - Chronic alcoholism (six types described)
73. Madhumeha 2.4.44; 6.6.55-56 - Diabetes
74. Māṃsakleda 1.20.14 - Softening and degeneration of muscular tissues
75. Manovikāra 1.7.52 - Psychic disorders
76. Masurika 6.12.93 - Pox
77. Medhrapaka 1.20.14 - Urethritis
78. Mṛtagarbha 4.8.30 - Chronic abortion
79. Mūkatva 1.20.11 - Dumbness
81. Murchcha 1.24.35 - Fainting fits (six types described)
82. Mūtrajathara, 8.9.30 - Retention of urine causing distension of the lower abdomen
83. Mūtrakṛchchhara 6.26.32 - Dysuria (six types described)
84. Mūrtakṣaya 8.9.34 - Uraemia
85. Mūtratta 8.9.35 - Chronic difficulty and delay in micturition
86. Mūtrotsaḥga 8.9.34 - Blood discharge with urine
87. Nādiwarṇa 6.25.56 - Sinus of fistula
88. Naqiropa 4.8.45 (Four types named, but not described) - Diseases of new-born babies
89. Nasaroga 6.26. - Diseases of the nasal passage
90. Nidṛādhikya 1.20.17 - Hypersomnia
91. Oṣa 1.20.14 - Heat-stroke
92. Oṣṭhabheda 1.20.11 - Harelips
93. Padbhramṣa 1.20.11 - Fallen arch or flat-foot
94. Paṅgavadha 1.20.11 - Hemiplagia
95. Pāṇḍuroga 6.16.7 - Jaundice (Three types)
96. Pāṅgulya 1.20.11 - Deformed foot
97. Pāṅsvaṃmarda 1.20.11 - Breathing difficulty
98. Piḍaka 1.17.82 - Diabetic eruption
99. Plīhāroga 1.19.4 (Five types) - Splenic diseases
100. Prameha 2.4.8 - Urinary disorders (six types described)
101. Piṭighranata 1.14.11 - Halitosis
102. Rājāyakṣama 6.8.14 - Pulmonary consumption
103. Raktagranthi 8.9.41 - Tumour in the neck of the bladder
104. Raktapitta 6.4.11 - Haemothermia (six types described)
105. Retodoṣa 6.30.139 - Seminal disorders (six types described)
106. Rohini 1.18.34 - Extensive and painful swelling at the base of the tongue
107. Romāntika 6.12.92 - Small eruptions spread over the entire skin surface
108. Śāluka 6.12.75 - Frightful swelling and inflammation inside throat
109. Šaṅkhyaḥveda 1.20.11 - Migraine
110. Sarvāṅgaroga 6.28.29 - General paralysis
111. Širaḥsopha 6.12.75 - Erysipelas of the head
112. Šīroroga 1.17.6 - Diseases of the head (Five types mentioned)
113. Šīlapada 6.12.98 - Elephantitis
114. Šonitkleda 1.20.14 - Pernicious anemia
115. Šoṣa 2.6.11 - Wasting diseases
116. Sotha 2.12.1 - Oedema

117. Śvāsa 6.17.46 - Asthma (five types described)

118. Śvetamātravarchastva 1.20.17 - White and flocculent urine

119. Sīrāstambha 6.25.29 - Vascular thrombosis

120. Srotoroga 3.5.8 - Diseases of the body fluids and channels (fourteen types named)

121. Sūrayavarta 8.9.79 - Recurrent neuralgic pain in the head

122. Svarakṣaya 1.24.15 - Aphonia

123. Tāluidṛddhi 6.12.77 - Abscess of the palate

124. Tamasu 1.20.11 - Asthenia

125. Tamotidāsanā 1.24.15 - Repeated fainting fits

126. Timiru 1.20.11 - Partial loss of vision

127. Tṛṣana 6.22.57 - Morbid thirst (five types described)

128. Tvagavadārana 1.20.14 - Scaly skin

129. Udararoga 6.13.9 - Stomach troubles

130. Udana 1.20.17 - Urticaria

131. Unapadāṅkuṣaṇīyakavikāra 3.34 - Epidemic diseases

132. Unmāda 6.9 - Insanity (fifteen types described)

133. Upajihvika 6.12.77 - Acute glossitis

134. Upakuśa 6.12.78 - Gingivitis

135. Uruṣāda 1.20.11 - Atrophy of the thigh muscles

136. Uruṣṭambha 6.27 - Paralysis of the thighs

137. Utsantra 6.25.58 - Displacement of internal organs

138. Vātabalāsa 6.29.11 - Rheumatism of the joints (three types named)

139. Vātaśīlā 8.9.36 - Hard tumour in the rectal or urinary passage

140. Viḍālikā 6.12.76 - Angina or quinsy

141. Vidariṅkā 6.12.89 - Bubo in the groins

142. Viloma 6.25.118 - Alopecia

143. Visarpa 6.21.29 - Acute spreading suppurations (seven types described)

144. Visamajavara - Recurrent fevers (six types described)

145. Vīṣūchikā 3.2.14 - Choleraic diarrhoea

146. Vṛadhanā 6.12.94 - Permanent swellings (five types described)

147. Vṛṇa 6.25 - Wounds; sores (forty four types mentioned)

148. Vṛṣanakṣepa 1.20.11 - Crypto-orchitis

149. Yoni roga 6.30 - Diseases of the reproductive organs (seventeen types described)
Diseases mentioned in the Nāvanītakam/Siddhasmṛkṣa

Leaf no. Obverse/Reverse - pathological condition referred to

[Terminology employed tallies to the above Sanskrit words]

1.0 - Cough, asthma, heart-disease, jaundice, diarrhoea, consumption, spleen, fever

1.R - Hiccough

2.0 - Pain in the side of heart, tumours caused by excess of air or phlegm, chronic diarrhoea or piles, morbid pallor, loss of appetite, costiveness, strangury, and disease of the womb and the rectum, obstruction in the chest, cough, hiccough, asthma, and stricture of the throat

2.R - Bleeding sores in the mouth, angina and abscesses in the throat, angry swelling, jaundice, piles, dyspepsia, worms, fistula, diseases of the skin, enlargement of the abdomen, spleen, abdominal tumours, epilepsy, severe abdominal pains, and gripes

3.R - Piles, costiveness

4.0 - Cough, asthma, long-standing morbid pallor (jaundice), severe spleen, abdominal pains, severe costiveness, heart-diseases, apathy, salivation, acute diarrhoea, painful abdominal tumours, cholera, tympanists, weak digestion, dysentery, inflammation of the anus, and piles

4.R - Seizure by evil spirits, madness, complex labour, injury by poison

5.R - Jaundice, swellings, erysipelas, pustules, scab, itch, and tumour of the feet

6.O - Strangury

6.R - Head-aches, facial paralysis, tumours, deafness, stiffness of the neck, lock-jaw, fetor of the mouth, noises in the ear, inflammation of the palate, ranula, night blindness, redness of the eyes, cataract, affections of the humours and the lens, and the milder and severer forms of opthalmia

7.O - Loss of voice, consumption, diseases of the chest and of the heart, leprosy, (morbid) thirst, and disorders connected with the urine and semen

8.O - Sciatica

8.R - Five kinds of abdominal tumours, the eight kinds of enlargements of the abdomen, swellings, consumption, piles, and the twenty one kinds of morbid secretion of the urine .... chronic diarrhoea, dyspepsia, many kinds of skin-diseases
9.0 - Enlargements of the abdomen, spleen, abdominal tumours, skin-diseases, cases related to poisoning, cases of abdominal tumours among women, adenia, fistula piles due to deranged bile, pressure of air upwards, and diseases due to concurrent derangement of all the humours, illness due to administered poison, and in diabetes

9.0 - Erysipelas

11.0 - Paralysis of a single limb, or of a whole side of the body, cramps of the jaw or of the head, facial paralysis, insanity, fever, sciatica, abdominal tumours due to deranged air, demonial possession, epilepsy, paraplegia, tympanitis, goitre, displacement of the bladder, scrotal enlargements, contracture of the hands of the knees, and loosening or trembling or drying up of the kneckles and joints

11.0 - Tuberculosis
12.0 - Colic
13.0 - Adenia, leprosy
13.0 - Haemorrhage, miscarriage, dysentry
15.0 - Leucodemia
16.0 - Headache
16.0 - Toothache, earache
18.0 - Epistaxis
27.0 - Eye diseases