



The Legacy of Charaka. M. S. Valiathan. Orient Longman Pvt. Ltd, 160 Anna Salai, Chennai 600 002. 2003. 634 pp. Price: Rs 550.

Ayurveda (the Science of life) is the medical system of India handed down to the modern world as the most ancient of all systems of medicine. Anyone who is even remotely familiar with Ayurveda would have heard of the 'Great Trinity' or *Vridha-trayi* of Ayurveda, viz. Charaka (Charaka), Sushruta and Vagbhata. Among these, Charaka is considered to be the oldest and his work *Charaka Samhita* enjoys an unparalleled reputation among the *Brihat trayi* – the three great ancient classic treatises of Ayurveda.

While considerable medical knowledge was acquired through various means and sources in early ages by mankind, *Charaka Samhita* perhaps, is the first attempt at a systematic documentation of well-organized ideas, facts, conclusions of debates on the subject in the form of a *Samhita* (or a compendium). *Charaka Samhita* itself has four authors/contributors, the original source being *Agnivesha Tantra* based on the teachings of Punarvasu Atreya to his students Agnivesha and others (1000 BC?). Charaka is said to have redacted this work (around 200 BC?) and much later, another scholar Dridhabala (4th century AD) further redacted this work by not only rewriting certain portions, but by providing two new sections and a few missing portions of the important section on therapeutics.

The term 'Charaka' is said to apply to 'wandering scholars' or 'wandering physicians' and may not necessarily denote the name of any individual.

Despite his popularity and fame in India and several other neighbouring countries, the identity and exact time of Charaka is shrouded in mystery, confusion and uncertainty. On the basis of indirect historic evidence (as available in the litera-

ture), historians and Ayurvedic scholars have tried to fix Charaka's time variously between the 2nd century and 8th century BC. It is significant to note that subsequent to Agnivesha, contributors/redactors and commentators of *Charaka Samhita* are separated by several centuries and generations. The fascination of *Charaka Samhita* is such, however, that scholars continue to translate and provide commentaries to it even in modern times.

In fact, those who are totally indifferent to this work and Ayurveda, in general, are the modern physicians (with some notable exceptions).

Charaka Samhita comprises 120 chapters (*Adhyayas*) distributed in 8 sections (*Sthanas*), viz. (1) *Sutrasthana* dealing with general principles and fundamental concepts of Ayurveda (30 chapters); (2) *Nidana Sthana* (8 chapters) dealing with diagnosis, pathogenesis and general pathophysiology of various diseases; (3) *Vimana Sthana* (8 chapters) dealing with miscellaneous topics like chemical/physiological aspects; diagnostic procedures (in clinical examination), infections and epidemics, etc. (4) *Sharira Sthana* (8 chapters) dealing with anatomy and embryology; (5) *Indriya Sthana* (12 chapters) dealing with symptomatology and prognosis of diseases; (6) *Chikitsa Sthana* (30 chapters) dealing with numerous drug formulations and prescriptions for (a) promoting a long and healthy life, including *Rasayana* (rejuvenation) and *Vajikarana* (virilification) therapies; (b) Treatment of various diseases. The 7th and 8th chapters, viz. *Kalpa Sthana* (12 chapters) dealing with drug formulations and pharmacy and *Siddhi Sthana* (12 chapters) dealing with evacuation and cleansing procedures (the now well-known *Pancha Karma* therapy) are contributed by Dridhabala, who also claims to have supplied/rewritten 17 of the 30 chapters of *Chikitsa Sthana* (almost amounting to one-third of the whole treatise). The colophons in this part of the *Samhita* read as follows:

इत्यग्निवेशकृते तन्त्रे चरकप्रतिसंस्कृते
ऽप्राप्ते दृढबलसंपूरिते

(Thus ends the chapter in the *Tantra of Agnivesha*, as redacted by Charaka, the missing portions being furnished by Dridhabala). This, to my mind, serves as a most authentic example of 'scientific integrity' of authors who lived several

centuries apart, but acknowledged and documented the contribution of the original authors, while accurately recording their own individual contribution. (What a contrast to the modern scourge of plagiarism among scientists!)

Coming to the acknowledged and well-lauded original, unique and important contributions and relevance of *Charaka Samhita*, the following may be cited, as examples:

- (1) Expansion/advancement of basic concepts of Ayurveda (e.g. The *Panchabhuta* concept and the doctrine of *Tridosha* and *Sapta dhatus*, as applicable to health and disease in human beings). These were entirely based on contemporary philosophical moorings of Charaka's time, but Charaka gave details of the functions of *Doshas*, and systematically propounded the philosophical moorings on which Ayurveda was based.
- (2) The evolution and emergence of the 'rational angle/approach' to the causation and cure of disease (*Yukti Vyapashraya* versus *Daivaryapashraya* concepts and measures). This called for considerable courage and conviction on the part of Charaka, considering the stronghold of dogma, superstition and religious rituals in all spheres of life at that age and time (the Atharva Vedic age). Charaka was the first to introduce *rational* angle to the science of medicine.
- (3) Further promotion of intellectual discourse, debate and discussions among different schools of thought, and different scholars and medical authorities.
- (4) Introduction of objective methods of clinical examination and tests for diagnosis and management of diseases (an extension of the introduction of *Yukti* or rational application) introduced for the first time by Charaka.
- (5) Importance of food/diet and *Prakriti* (individual constitution) in health and disease. (Charaka's classification on good food/nutrition is highly scientific and relevant for present-day nutritionists and health-care authorities).
- (6) Charaka provides deep insights into Digestion and metabolic processes occurring after ingestion of food. (The concept of *agni* in digestion and metabolism and the nourishment of *dhatus* (primordial tissues) is elaborated by Charaka.)
- (7) Psycho-somatic (*Deha-Manasa*) approach (*Satvavajaya*) to health and disease. (Charaka was the first, in the

world, to focus on the role of mind, apart from the body in health and disease.)

(8) Emphasis on promotive and preventive measures for health (*Dina Charya*; *Ritucharya*, *Rasayana* and *Vajikarana* therapies).

(9) Elaboration of the unique pharmacological concepts/principles of Ayurveda involving *Rasa-Guna-Veerya-Vipaka* and *Prabhava* (of drugs as well as food items).

(10) Ethics in medical practice/medical education. (It is heartening to note that Charaka's oath is being administered to medical graduates in some of the health universities/universities of Ayurveda in India at present, in place of the conventional Hippocratic oath).

(11) Rational classification of *Dravyas* and drugs (according to the source, nature and most importantly, according to their pharmacological actions and therapeutic application). Charaka makes the first attempt to classify drugs into 50 groups (based on their action and uses).

(12) The oft-repeated 'holistic' approach of Ayurveda echoes throughout *Charaka Samhita* in various forms and contexts. The equilibrium of psycho-somatic elements in health (*prakriti*) and dis-equilibrium in disease (*vikriti*); the object of physician being described as '*Prakriti Sthapana*' (restoration of equilibrium); the reference to *Sama Yoga* (balanced intake/consumption/reception) as a pre-requisite of *Samya* (equilibrium), while *ayoga* (non-use); *atiyoga* (excessive use) and *mithya yoga* (improper or faulty use) cause or lead to diseases.

(13) The capacity for self-healing possessed by all living beings was well known to Charaka (the keen observer of Nature that he was). He expounded that physicians should only intervene to assist Nature (according to *svabhavoparamavada*, i.e. the theory of natural subsidence), while treating a patient. More emphasis was laid on the host factors (i.e. the strength and resistance of the patient) than on the causative factors (particularly external ones like micro-organisms). This is in contrast to the modern chemotherapeutic approach which is totally reductionistic in both thinking and application.

(14) Emphasis on harmonious relation of human life with Nature/environment.

Subsequent to Dridhabala, there have been attempts to study and publish a gloss or commentary on *Charaka Samhita* – the most well-known being that

of Chakrapani Dutta (11th century AD), titled *Ayurveda Dipika* or *Charaka-tatparya Tika*. Since the 19th century, this commentary is being incorporated in most of the standard editions of *Charaka Samhita* (particularly for the benefit of students).

Other commentaries once well-known but since neglected, lost or available in a mutilated form are *Charakanyasa* by Bhattara-Harichandra (6th century AD); *Nirantara Pada* by Jejjata (9th century AD); *Charaka-Tatwa-Pradipika* by Shivadasa Sena (15th century AD). A few more commentaries are *Charaka-Tatwa Prakasha* by Narasimha Kaviraja; *Chakropaskara* by Yogendranath Sen and *Jalpa-Kalpataru* by Gangadhara Kaviraj (19th century AD).

Charaka Samhita had been translated into Persian and Arabic languages in the 8th century AD itself. Al Beruni held Charaka as the most ancient authority on Indian medicine. Latin translations refer to Charaka as *Sharaka Indianus* (7th century AD).

Modern editions of *Charaka Samhita* have been published since 1877 from different parts of India (such as Calcutta, Berhampur, Jamnagar, Bombay and Varanasi). Translations in languages like Bengali, Hindi, Gujarati, Kannada, Telugu, Urdu are known. The first English translation in 1920 was from Calcutta by A. C. Kaviratna.

The Gujarat Ayurved Society brought out in 1949, a six-volume edition of *Charaka Samhita* with Sanskrit text and translation in English, Gujarati and Hindi. An elegant synopsis of *Charaka Samhita* authored by P. Ray and H. N. Gupta (National Institute of Sciences, New Delhi, 1965) attempted, for the first time perhaps, to present in English, salient features of the views and observations of Charaka, in a classified manner. It gives tabular information (complete with references) on substances (*Dravyas*) of plant, animal and mineral origin; diseases and pathological conditions; anatomical and physiological terms; apparatus and appliances; physico-chemical processes; mechanical and physical terms; weights and measures, etc. This synopsis is useful, although intentionally, attempts to 'modernize' Charaka's concepts and views have been avoided!

The most recent translation of *Charaka Samhita* in English by P. V. Sharma was published by Chaukambha Orientalia, Varanasi (1994). It is strange, however,

that there has been little attempt to undertake annotations, redaction or commentaries on the text, in recent times by modern Ayurvedic scholars/physicians or historians. Sharma, however, has authored a unique treatise titled *Essentials of Ayurveda – Shodasanga Hridayam* (Motilal Banarasi Das, Delhi) in 1993, which constitutes a confident attempt to re-structure and regroup the subtopics of Ayurveda, in tune with modern developments in the teaching and practice of Ayurveda, by adding nine new topics/chapters to the conventional *Ashtanga Ayurveda* prevalent since Vagbhata's time. Sharma has based his book not only on *Charaka Samhita*, but other treatises and *Nighantus*, as also some of the 19th century development in Ayurvedic teaching. After deleting one subject (viz. *Bhuta vidya* which is now considered obsolete), from the original *Ashtanga Ayurveda* of Vagbhata, Sharma has introduced *Shodashanga Ayurveda* (with 16 subjects). This work is a timely and useful publication in English which seeks to introduce the essentials of Ayurveda (as culled out from authentic texts) to the modern-day students and scholars. Apart from this exceptional work, there has been very little recent effort to 're-tell' Ayurvedic treatises.

The book under review by M. S. Valiathan is the latest attempt to re-tell and, to some extent, re-interpret the essentials of *Charaka Samhita*. I consider this scholarly work as remarkable and unique in many respects, and also in terms of content, context, and style of presentation (which is meant to appeal to the modern mind and in tune with contemporary idiom and changed ideology and epistemology).

It is remarkable that a renowned medical specialist with major interest in cardiac surgery and development of affordable cardiovascular devices, undertook this important exercise in his post-retirement period, by devoting two years of undivided attention and hard work to study *Charaka Samhita*, to acquire the insights evident in the book. The author also painstakingly equipped himself for this arduous task through advanced Sanskrit lessons and the guidance of an authority like Sri Raghavan Thirumulpad for his 'Ayurvedic excursion'. The author has done full justice to the Homi Bhabha fellowship which helped him to take up this arduous and exclusive 'digression into unusual/unconventional territories'.

It is no mean achievement to go through the entire text of a major classic treatise like *Charaka Samhita* with its vast canvas (covering 120 chapters) and ranging from philosophic moorings to classification of diseases, drugs; theories and basic concepts/doctrines as also a description of drug action; aspects of preventive medicine; medical ethics/teaching and to present a comparative review of the contemporariness of Charaka's text with his time, environment and society.

While relying on the latest authentic translation of *Charaka Samhita* by Sharma and Chakrapani Dutta's commentary, it is evident that the author has gone to great lengths to study the original text which has resulted in a scholarly review of various facets of contemporary interest and relevance to modern medical scholars and physicians, as presented in the Introduction (spanning 10 chapters and nearly 80 pages). I consider this section (Introduction) as the most interesting and valuable part of the book, as it not only sums up Charaka's contribution to medical science (from a modern point of view), but also presents the author's special insights. It is commendable that the author, while citing contributions of Charaka on various facets of medical knowledge, also points out apparently paradoxical omissions (or superficial/scant attention paid), from a modern angle, in the text, as, for example, (a) the scant attention or absence of reference or description of such important diseases as small pox, and bubonic plague; (b) while recognizing and recording the location of the heart and mentioning about blood supply, there is no evidence that Charaka was aware of 'Blood circulation' as known to modern physiology; (c) while the lung was recognized, its role in respiration was not recognized or paid attention to; (d) while the head and brain were distinguished from each other, the connection of brain with consciousness and with neurological disorders like epilepsy was not recorded. For those who have traversed, for long, in Ayurveda land, this may not appear too strange!

During my study of Ayurveda at Banaras Hindu University in the 1960s, many such discrepancies in the various treatises used to be discussed and debated with Ayurveda scholars and authorities like C. Dwarakanath, Vd. Pandit Rajeshwar Dutt Shastri and Damodar Gaur. The consensus reached then was that (a) the Ayurvedic authorities in the *Samhita*

period in particular, were not too much concerned with correlating or linking anatomical structures with physiological functions, (b) many of the brilliant hypotheses described in Ayurveda with respect to Digestion and Metabolism; *Tridosha* doctrine and the role and function of *Sapta dhatus* and often even drug action do not attempt at any correlation/association with known gross anatomical structures. Our ancients were adept at abstract thinking and theoretical correlations, in contrast to our modern scientific compulsions for gross correlations not only in terms of anatomy, physiology and pathology, but at different progressively-sophisticated, technologically-advanced levels like cellular and molecular levels of bodily tissues – based mainly on the Newtonian Cartesian view of the world order (on which modern medicine is heavily based, even today).

There are other major (glaring) omissions noted by scholars in Ayurvedic literature, such as the absence of the concept and practice of *Nadipariksha* (or pulse examination) in the classical treatises of Ayurveda (including the *Brihat-trayi*), in contrast to recorded evidence of pulse examinations in Greek medicine as early as 320 BC! The first reference to pulse examination in Ayurveda is available in *Sharangadhara Samhita* (13th century AD). Similarly, there is no reference to a major organ like pancreas in the abdominal cavity (although some authorities equate *nabhi* with pancreas). Such deficiencies and omissions are difficult to explain by attributing to loss or mutilation of manuscripts, because one would expect the subsequent redactors or commentators to make good such deficiencies! Dwarakanath would resort to the application of *reductio ad absurdum* in such situations!

The chapter on 'Diseases in Charaka's period' would be of great interest to modern medicine, particularly for epidemiologists. The graphic representation of the number of references in *Charaka Samhita* with respect to various infectious and non-infectious conditions (as prevalent during that period) is not only of interest, but offers great potential for further study. Although one may not fully agree with the author's interpretation of correlating intermittent fevers with different types of malaria (except for *Chaturthaka jwara* as possibly malaria due to *Plasmodium falciparum*) as pointed by him, the absence of references to

or only scant attention paid in *Charaka Samhita* to such major diseases of global importance as small pox, and bubonic plague is indeed intriguing. This calls for more studies.

A few minor lacunae in the publication, from my point of view, are: (i) the lack of original references in *Devanagari* script at least for the Introductory Section [Mere listing of references at the end of each chapter is acceptable for journal articles, but for a scholarly work of this type, the original textual reference in Sanskrit (as found in the works of Dwarakanath) would be of great assistance to serious readers]. The page numbering of Section 1 (which is too bulky to be indicated by Roman script) is better done in the Arabic script, to make for easy reading. Further, the division between sections 1 and 2 in the printed text is not at all clear, although the content pages promise differently. The contents listed (particularly the sub-headings) do not always match with what follows in the text.

In contrast to the brilliant exposition in the Introductory section and also parts of Section 1, the contents of Section 2, while providing useful information (in text and tables), somehow seem to miss the personal touch of the author apparent in the earlier sections. The epilogue, finally, is somewhat of an anti-climax, as there is no summing up of the author's overall views (and sense of achievement) after this excellent effort resulting in over 580 pages of knowledge derived from a great classic like *Charaka Samhita*. These are all minor lacunae which, I am sure, could be eliminated in future editions of the publication.

Further, while it can be easily understood why, in Section 2, certain topics and diseases have been selected for elaborate consideration (as for example, *Rasayana* and *Vajikarana*; diseases like fevers, polyurea (*Prameha*), phthisis (*Shosha*), piles, diarrhoea, vomiting, etc., it is not clear why the same degree of attention has been bestowed on ill-defined and ill-understood conditions/topics like *Gulma*, *Urustambha*, by devoting entire chapters on them. Similarly, in my view, the chapter on 'Sudden Death' particularly 'prognostic role of house call' is redundant in the current context (incidentally, the term 'gaseous lump' is not universally accepted for interpreting *gulma* described in Ayurveda, as *gulma* is used, in Ayurveda, for any abdominal mass, in general.

The elaborate tabular information painstakingly prepared for various chapters is extremely useful and provides handy information on classification, formulations and even methods of preparation.

The work of Valiathan is an important milestone in Charaka literature, reflecting the author's labour of love, resulting in an excellent presentation through a process of re-discovery of medical/socio-environmental knowledge based on the author's exciting and fascinating journey through the 'Charaka land', which breaks the barriers of time and opens new doors to the glorious past of India's medical and scientific heritage. The 're-telling' of Charaka's contributions in an altogether new, systematic, textual, tabular and graphic format is indeed effective. Some of the views/observations may or may not be accepted by puritans, but such attempts are still necessary and welcome.

This attempt by a dedicated scholar, trained basically in Western medicine, but endowed with special scientific insights and a passionate thirst for exploring 'unusual territories' will no doubt fulfil the expectations of Sri Raghavan Thirumalpad (as expressed in the preface of the book) of 'not only giving reading pleasure, but triggering new lines of thought' in serious students of Ayurveda as well as modern medicine.

With this historic work, in my view, Valiathan joins the illustrious list of redactors of Charaka like Dridhabala and through the introductory chapters of the book which can be considered as a 'mini commentary', the author deserves to be in the good company of renowned commentators like Chakrapani Datta. The fine description of the role of redactor (*Samskarta*), as given in *Charaka Samhita* itself serves to prove this point: 'The redactor enlarges or expands the aphoristic and condenses the prolix. In doing, so he renews the (old) knowledge and brings it up to date'.

धिस्तायति लेशोक्तं संक्षिपत्यतिविस्तरम् ॥
संस्कर्ता कुरुते तन्त्रं पुराणं च पुनर्नवम् ।

Charaka: Siddhi: 12:36

This is what actually Valiathan set out to do and has achieved considerable success in this challenging task.

I expect that the book will see many editions and even early revision and

further redaction by the author himself.

G. V. SATYAVATI

'Prasada Nilaya',
55D/82, East End 'B' Main Road,
9th Block, Jayanagar,
Bangalore 560 069, India



Return of the Crazy Bird – The Sad, Strange Tale of the Dodo. Copernicus Books, 37 East 7th Street, New York 10003, USA. 2003. 216 pp. Price: US \$ 27.50/EUR 29.95.

In the middle ages, the maps of the world depicted just three continents: Europe, Africa and Asia, circled by oceans, and crossed by seas. These maps often had Jerusalem at their centre, the navel of the world. As in these mediaeval maps, Clara Pinto-Correia has used the dodo as a central point of reference, from which skeins run through a tapestry rich in tales of exploration, religious persecution, empire-building, colonization, patronage of the arts, museums, natural history, evolution, and inevitably, extinction.

How does, for example, Pinto-Correia connect the Defenstration of Prague to the dodo? To navigate these historical waters, one could begin with the Portuguese, whose geographical location at the outermost western promontory of Europe, virtually falling off the map into the Atlantic Ocean, could have prompted them to seek other shores, particularly to find a sea route to the spices, silks and precious stones of the Orient, to beat the

Arab traders who had the monopoly over the overland route. But even before the idea of reaching India, Portuguese maritime peregrinations were encouraged by Henry the Navigator, Prince of Portugal, who in the mid-fifteenth century, exhorted his mariners to conquer the north and west coasts of Africa, and their offshore islands, in the name of God and Portugal. All of this, we know, ultimately led to Vasco da Gama, rounding the Cape of Good Hope, and finally reaching Calicut in 1498, six years after Christopher Columbus discovered 'India' in the New World in the name of God and Spain.

Why weren't the Spanish in the Indian Ocean? This was because of the 1493 Treaty of Tordesillas, according to which Pope Alexander VI divided up conquests of the New World between Spain and Portugal by drawing an imaginary line that ran north-south through the Atlantic Ocean; Spain was to lay claim to everything approximately 1800 km west of the Portuguese Cape Verde islands, while to the east, the world belonged to Portugal. Thus the Portuguese were the first to enter the Indian Ocean, which inevitably led to the discovery of the Mascarene Islands – Mauritius, Réunion, and Rodrigues, the three isles at the fulcrum of the story. Mauritius, the isle of the dodo, owes its present name to Maurice of Nassau, captain-general and admiral of the Netherlands. The Netherlands under Maurice was a sanctuary for Protestant refugees, especially French Huguenots, victims of religious persecution. These diaspora contributed to the commercial prosperity of the Netherlands, resulting inevitably in the quest for new trade routes via maritime expansions. The Dutch followed the Portuguese into the Indian Ocean, to capture the source of the valuable spices: nutmeg, cinnamon and pepper, after several abortive attempts to find a northern polar route to the East Indies or the Spice Islands. They ultimately established a base at Jakarta, then called Batavia, and were later to use Mauritius as a convalescent isle for Dutch settlers who could not withstand the humid climes of Java.

Where is the dodo in all of this? As an inevitable consequence of this exploration and expansion, mariners who used the Mascarene Islands as staging posts in their voyages to India and the East Indies, found the dodo to be easy prey, and although its flesh was barely palatable, which led to it being called *Walckvogel* or