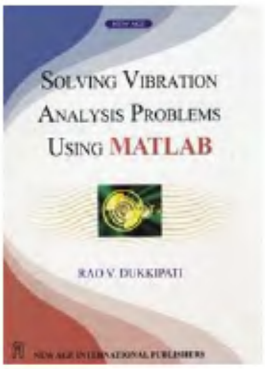

Solving Vibration Analysis Problems using MATLAB. Rao V. Dukkipati. New Age International Pvt Ltd, 4835/24, Ansari Road, Daryaganj, New Delhi 110 002. 217 pp. Price: Rs 495.

Vibration analysis occupies the centre stage in the dynamics of structures and machines. It is perhaps the most useful skill for engineers who have to work with dynamic systems in varied applications. Although the basic introduction to vibrations is given fairly early on, in high school physics, it is not until the third year of engineering that students take a proper course in vibration analysis. Once they move from the canonical form of a single degree of freedom, namely a spring-mass system, the analysis soon gets fairly complicated, requiring the understanding of eigenvalue analysis, frequency-domain calculations, numerical solution of a system of ODEs, etc., even for linear vibration analysis. Of course, the subject becomes a lot more diverse and complicated once the Pandora's box of nonlinear oscillations opens.

Modern computational tools in the form of software packages have considerably eased the pain of vibration analysis. As a result, what one can learn using these tools in a one-semester course today is incredible. In particular, MATLAB provides such easy access to all needed calculations, simple or complex, and visualization of results, including animation of vibrating systems, that critical concepts and even nuances in vibration analysis become easily accessible to a student. However, like most subjects, opening such doors of learning and understanding depends on the efforts of the instructor and the students. MATLAB is just a tool. It needs a well-defined workpiece and a craftsman to show what kind of masterpiece it can create. The book by Rao V. Dukkipati is an attempt at showing what a student can do with this tool on a workpiece such as vibration analysis.

Unfortunately, the book falls short on all accounts of what a book of this kind should do. It does a fairly mediocre job of introducing both the subject of vibration analysis and the tool to carry out the analysis. It seems to be planned with very little thought and is written quite carelessly. The author reviews the theoretical concepts of vibration analysis in the first chapter. It is not clear to me whether it is supposed to be a chapter from which students can learn the topics covered or it is merely for compiling the relevant equations with minimal explanation. In either case, the chapter fails to do justice to the goal. It would be much better for a student to refer to standard text books on the subject to learn the relevant concepts. I fail to understand the motivation for covering many advanced topics in merely two and a half pages (Section 1.18), from which no one can learn anything! The carelessness with which the book has been written and produced is visible on almost every page. The very first sentence of the book (p. 1) is technically incorrect, although the author corrects the definition in the next paragraph. There are several wrong figures (e.g. first diagram in figure 1.4, figure 1.17) and even equations (unnumbered equation below figure 1.7, p. 7). The quality of illustrations, for this time and age, leaves much to be desired. In short, I do not see how this review chapter can excite any student or a teacher to learn vibration analysis or to place trust in the author to continue with the rest of the book. The writing by itself is a bad example for students. The basic composition of a paragraph is flawed in many places. In fact, to any discerning reader, it will not take more than reading the Preface to see that the author pays no attention to English composition. I would certainly not like my students to read such books.

The worst, however, is still to come! When I started reading the second chapter on 'MATLAB Basics', I was aghast to see that the author has simply lifted material from my own book on MATLAB, pages after pages, with little or cosmetic changes in the text. Several examples and tables are simply copied, word by word, with exactly the same format! This is blatant plagiarism. It just so happened that this book came to me for a review. I wonder if someone else would have reviewed it, would he/she have got any inkling of it or not. Going by this chapter, I also wonder if I should look into other vibration books to see if the first chapter itself is lifted from other books. The third chapter on tutorials includes many MATLAB scripts and functions that present good examples of bad programming. This is how programmes are written when you know nothing about programming.

I would not only NOT recommend this book to anyone, but would also urge the publishers to take it off the market and ask the author to issue a public apology for plagiarism. On the grounds of the contents alone, a student will be better off learning vibrations from the classic books and learning MATLAB on their own.

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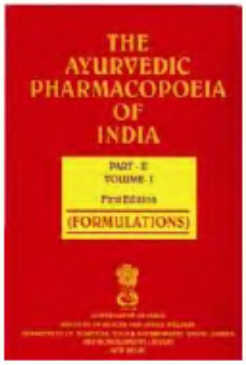

The Ayurvedic Pharmacopoeia of India: Part II. A Good Beginning. (Formulations). Ministry of Health and Family Welfare, Department of AYUSH, New Delhi, 2007. vol. 1. 280 pp. Price: Rs 500; US$ 100.

The need for standardization and publishing of standards for finished ayurvedic formulations that are sold in the market has been stated on umpteen occasions. In a Guest Editorial in *Current Science*, Valiathan[1] lamented on the quality assurance aspect of ayurvedic medicines. Publication of a complete *Ayurvedic Pharmacopoeia* of 1000 products was

suggested as a target. Now the Department of AYUSH, under the Ministry of Health and Family Welfare, has published the first volume of *The Ayurvedic Pharmacopoeia, Part II (Formulations)* (*API*) which was released in December, 2007. This covers quality specifications in the form of a monograph for 12 Avaleha (jam-like semi-solid preparations), 11 Churnas (powder formulations), and 12 Grithas (medicated ghee preparations-herbalized clarified butter preparations), 1 Guggulu recipe, 1 Gutika (a pill), 6 Ksara/Lavana (alkaline substances from ash of plants), 6 Taila (medicated oils), 1 Lepa (semi-solid preparation for external use) – 50 recipes in all.

The book has for the first time provided quality specifications for all these recipes, involving description, physico-chemical tests, a mandatory thin layer chromatographic (TLC) test for establishing the chemical profiles, which in some cases have been also made into a quantification of a known chemical marker compound. Each monograph also gives the standard operating procedure (process) for making the recipe apart form the composition of the formulation, its dose and therapeutic use. In the General Notices to *API*, deviations that are permitted from the composition or process, including use of official substitute, deletion of a drug or herb that is banned from commerce have been clearly stated, in addition to allowing a permitted preservative when products are to be stored for long periods of time. The *API* also provides limits for heavy metals, pesticides, microbial contamination and aflotoxins. The pharmacopoeial methods for all the tests prescribed have been provided at the end of the book.

The book provides interesting and historical information on the developments of standards on ayurvedic herbs and ayurvedic formulations in its preface and introduction. Appendix 6 provides definitions and methods regarding ayurveda. Appendix 7 provides useful information on metric equivalents of weights and measures described in classical ayurvedic texts. It also gives general monographic information about each of the dosage forms for which the quality monographs have been included. It should be recognized that the Pharmacopoeia is a book of standards and the additional information really makes the publication useful.

A review of Pharmacopeia published by other countries like the UK[2], USA[3] and Europe[4] reveals that recent editions have introduced monographs on individual plants with medicinal value. These quality monographs in almost all cases have a quantitative test and limit for one or more well-characterized chemical substances (bioactive marker or analytical marker). However it is hard to find quality monographs on finished formulations having more than one medicinal plant and hardly any that are polyherbal in nature. One can find such quality monographs for polyherbal traditional medicinal formulations only in the *Chinese Pharmacopoeia*[5]. It is to be recognized that regulatory standards in any pharmacopeia are required to lay down minimum acceptable standards for industry-wide acceptance. One may have liked to see more formulations with specific marker compound analysis and quantification of possible bio-actives in all the formulations. Such an approach will serve scientific expositions. This kind of information is still not available for ayurvedic formulations, and even if available, may show the presence of small proportions of chemical markers which would need highly sophisticated measurement techniques, not necessarily adoptable by the large number of medium and small sector ayurvedic industry (more than 6000 pharmacies are reported to produce ayurvedic products in India). Recognizing this, the *API* states that the quality specifications have been kept modest. Viewed in this context and perspective and given the challenges of analytical science and the need for such quality specifications, the publication of this *API* is a step in the right direction, and is commendable.

Though this book is primarily of regulatory nature, it also provides a lot of information. It could be made more informative by reproducing the TLC profiles as photodocumented, and also photodocumentation of the microscopic tests prescribed for easy reference by the users. It also provides an opportunity for anyone to get a sample of the ayurvedic products covered in this *API* tested by any of the more than 25 approved public test houses for quality, a long-standing need fulfilled. It is not known whether the industry, the final user of such specifications, was involved in the development of the monographs, as no mention appears in the book, and whether any collaborative testing was undertaken for the products covered in the pharmacopoeia. Its strict enforcement by way of insistence that the products be labelled with the term 'API Pt II V-I' after the name of the ayurvedic recipe, indicating the compliance to these standards as required under the law would improve public confidence.

1. Valiathan, M. S., *Curr. Sci.*, 2006, **90**, 5–6.
2. *British Pharmacopoeia*, British Pharmacopoeia Commission, London, 2007.
3. *United States Pharmacopeia 31, National Formulary 26*, United States Pharmacopoeia Commission, Maryland, USA, 2007.
4. *European Pharmacopoeia*, European Directorate of the Quality of Medicines, 2007, 6th edn.
5. *Pharmacopoeia of Peoples Republic of China*, Pharmacopoeia Commission of the Ministry of Public Health, Govt of China, 1997.

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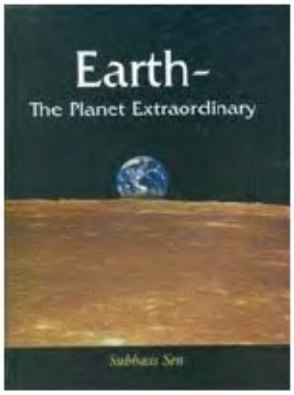

Earth – The Planet Extraordinary. Subhasis Sen. Allied Publishers Pvt Ltd, I/13-14, Asaf Ali Road, New Delhi 100 002. 232 pp. Price: Rs 380.

The earth is an extraordinary and unique planet, home to more than a million life forms, including humans. To understand the earth to its full depth of 6400 km, however, no tangible material is available for study. Geoscientists look for phenomena at the earth's surface that provide clues to the properties and behaviour of matter deep inside the earth. The deepest underground mines, e.g. Kolar gold mine, India and Witwatersrand gold mine, South Africa, have reached a