VEDAS and COMPUTERS
(Computer Science in Vedas)

Dr. RVSS AVADHANULU
O Govinda!

Rendering to You this work

That already belongs to You!!
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MESSAGE

No. 2-M/97

21st November, 1997

Dear Shri Avadhanulu,

The President of India, Shri K.R. Narayanan is happy to know that Shri Veda Bharathi, Hyderabad, is bringing out a book on "Vedas & Computers - Concepts of Computer Compilers in Vedic Mimamsa" highlighting the similarities of both the systems and exploring the utility of Vedic system for furtherance of modern Computer technology.

The President sends his greetings and best wishes on the occasion.

Yours faithfully,

(S.N. Sahu)
Officer on Special Duty(R)

Shri RVSS Avadhanulu,
Chief Consultant (Hon),
Shri Veda Bharathi,
203, 'C' Block,
Venkata Ramana Apartments,
Hyderabad - 500 004
PUBLISHER’S NOTE TO THE THIRD EDITION

We have great pleasure in publishing the third edition of this Book, “Vedas & Computers (Computer Science in Vedas)".

From the letters received from various sections of the society including Scholars, Scientists and Students, it was gratifying to note that the earlier editions were well received.

While clarity and conciseness have been the watch words of presentation of the English Text, accuracy and adherence to the original source have been the guidelines of transliteration and translation of the Sanskrit text.

With the increasing interest in the subjects of Indology, we are sure, this book will meet the aspirations of many and encourage many more to conduct research in Computer Science based on Vedic knowledge in the near future.

Shri Veda Bharathi fondly remembers and acknowledges the spontaneous response of Shri B.Ch.V. Subba Rao, Managing Director, Aswini Homoeo & Ayurvedic Products Ltd., Hyderabad, in bringing out this edition.

Hyderabad
25.01.2007
Ratha Saptami.

“SHRI VEDA BHARATHI"
There is a description of the process of speech in the śiksā of Pāṇini. One forms a clear idea about certain things in his intellect, Buddhī, then a desire to express the same is created in the mind, Manas; the mind stirs the fire, the electricity - like power in the body which in its turn activates the air breath. Moving with in the chest it dashes against the head, takes a downward turn, reaches different places of articulation and produces different sounds called letters. This is a process involved in the utterance of each letter which, though consisting of so many actions does not take even one millionth of a second. Such is the imperceptible extraordinary power of the human mind working in tune with the vital energy contained in the body. Man has transferred, as it were, this power of his mind to the Computer, retaining of course, the power of giving commands, perhaps for the present, with himself. The Computer receives the informa-
tion as per the commands of the man, retains it and goes on giving it back.

In India, a systematic analysis of Sanskrit language, in every possible aspect, which was not even thought of in other countries of the world till very recent times was done in Sastras like Mīmāṃsā, Vyākaraṇa and Nyāya long before the beginning of the Christian era. Mīmāṃsā which is known as the Vakya Sastra, a science mainly concerned with the interpretation of sentences has laid down some rules which help us in understanding the ideas intended to be conveyed by a sentence. Taking predication of an action as the main purpose of a sentence, it is maintained by the Mīmāṃsakas that there are three types of Vidhis - Utpatti Vidhi, Niyamavidhi and Parisankhya Vidhi. They also talk of six principles like Sruti, Linga, etc, which are helpful in determining the purport of a sentence, each one of them having its superiority over and inferiority to others.

Conveying the ideas being the main purpose of a computer also, it has its own rules to achieve this object. It is really astonishing that many of the rules laid down in Purva Mīmāṃsā have a striking similarity with the rules followed in operating a Computer.

Prof. RVSS Avadhānulu, who has been doing yeomen service in the Vedic field, for the past several years, by
computerising the Vedas and the Vedanta, highlighting, at the same time, some of the scientific contents of the Vedas, is now showing, for the first time, the similarities of some of the basic principles laid down in Mimamsa with those which are in operation in the Computers. All his theories are illustrated with many suitable examples.

This unique work of Prof. Avadhanulu, will inspire, as I am sure, many young scholars to discover many more such new ideas and scientific truths, hidden in the various branches of the ancient literature of India.

Hyderabad P.SriRamachandrudu
27.5.1997
V.K. DONGARE SASTRI
Panulita Pravara
Sastra Ratnakara
Purvottara Mimamsa Bhaskara
Sastra Nidhi

Vedas deal with not only spiritual matters, but also topics of research in physical sciences. The scientific aspects were clearly spotted and details were identified, but they could not get their priority with the Seers! At the same time they are not altogether new.

The noble attempt by Shri Veda Bharathi in highlighting the fact that the Vedas and Sastras are the original source of all knowledge is heartening and hence laudable by all Indians.

After closely observing the endeavour of Shri Veda Bharathi, I am happy to state that the book on 'Vedas & Computers - Concepts of Computer compilers in Vedic Mimamsa' by Shri RVSS Avadhanulu, establishes that some of the latest principles of computer science were already recorded in Mimamsa Sastra.

With Best Wishes

Hyderabad
Date: 1.7.1998
V.K.Dongare Sastri
I have witnessed with pleasure the important work of preservation and propagation of Vedas undertaken by Shri Veda Bharathi (SVB). The great effort of SVB to project the wisdom contained in the Vedas with the help of the modern Computer is really unique. This work will disprove the wrong belief held by some persons that the knowledge contained in the Vedas is useful only to a selected few and is not relevant to the common man.

The Compact Disc which can contain mantras will prove to be a great tool in comprehending many aspects of Vedic knowledge scattered at various locations.

It is well known that the traditional 'Gurukula' system of teaching Vedas is severely affected. Simultaneously, the relevant Vedic texts of many branches have disappeared. In this context, the efforts of Shri Veda Bharathi to save at least the available literature is really laudable.

The unique efforts of Shri Veda Bharathi will no doubt result in bringing out the Vedic wisdom and presenting it in a manner acceptable to and understood by the modern scholars and students of Universities and...
Technological Institutes. I am not referring to the details of computerisation as they are already covered in the book.

The computers have no doubt become popular in many offices and modern organisations. It is heartening to note that these modern machines are also being used by Shri Veda Bharathi to highlight our ancient Vedic knowledge.

I wish the work of Shri Veda Bharathi will grow in importance and get due recognition from all concerned. Let SVB scale greater heights in years to come.

I wish them well.

Rajahmundry
Dt.17-3-1998

Remella Surya Prakasa Sastri
PREFACE

The seers and sages of this holy land sacrificed their lives and passed on to us the Vedas and Sastras, which constitute the invaluable treasure of eternal knowledge, useful for both the temporal and spiritual worlds. The four Vedas were known to have more than 1,131 branches before foreign invasions of India. But today only 13 branches are traceable, i.e., about 1% of Vedic literature only is available. Even these branches in their residual form are radiating information on all aspects, including modern science and technology.

Several scholars of western hemisphere admired the advances made by India based on Vedas in ancient times. Their unbiased remarks and the scientific works of Indian scientists have stirred the souls of many to just peep into the ancient science. Almost at the same time, Shri Veda Bharathi, a Public Charitable Trust, Hyderabad, striving for preservation and propagation of Vedic knowledge has given great encouragement and support for studying the Vedic sciences from a modern viewpoint.
A Humble Attempt

Against this backdrop, Shri Remella Surya Prakasa Sastri, an outstanding Vedic scholar, was approached for help in bridging the gap between the scientists and the traditional Pandits, by way of unearthing the scientific contents from Vedic literature. The response from him was very prompt and heartening. He selected the subject of mīmāṃsā (मीमांसा) to begin with and started explaining its principles with illustrations, while covering the book of mīmāṃsā Nyāyaprakāśa (मीमांसा न्यायप्रकाश).

Then the subject was again discussed with another outstanding scholar, Shri Dongare Veereshwara Krishna Sastri, Secunderabad. In spite of his old age, he helped me by dictating notes for all the topics having deep rooted links. The exercise resulted in unfolding several advanced concepts, which are being currently implemented in the computer technology. These observations are recorded in the present form.

During the process, it is noticed that the DTP Package used has several limitations w.r. to the
transliteration of Sanskrit words into English. Similarly the split of the words of Sanskrit is also wanting in its perfection. I request the readers to ignore the mistakes, but bring them to our notice for incorporating the corrections in the next edition.


For illustration of the concepts, any popular Computer language like C, FORTRAN, BASIC or COBOL, will be good enough. But FORTRAN was selected for its value of antiquity.

I find a peculiar situation with regard to the prospective readers of this book. The Computer Scientists
are not aware of the rules of mīmāṃsā and the Vedic scholars are not familiar with the Computer Science; and others, who actually constitute a much larger segment, are not familiar with either Computer Science or mīmāṃsā. Hence for the benefit of all, three introductory chapters on computers and mīmāṃsā are included. Readers who find these chapters elementary may skip them. The real comparative study starts from fourth chapter onwards, which may be given a serious thought by all. Even if it creates a curiosity in a few, I feel I have served my Vedamāta well. On this occasion, I express my deep sense of gratitude to the organisers and patrons of Shri Veda Bharathi for their liberal support to the above studies.

I wish to express my respectful thanks to Shri Dongare Veereswara Krishna Sastri and Shri Remella Surya Prakasa Sastri, erudite scholars of Mimamsa Sastra, and Prof. Pullela Sri Ramachandrudu, authority on Vyakarana Sastra for their scholarly guidance in this humble endeavour.

My special thanks are also due to Prof. (Rtd.) BVL Narayana Rao, Central Institute of English and Foreign
Languages, and Shri R. Mallikarjuna Rao, Vice President, Satyam Computers, for their invaluable suggestions in editing this text.

I also express my sincerest thanks to Prof. Dr. Kakarla Subbarao, Director, Nizam's Institute of Medical Sciences, Hyderabad, for his continuous moral support and encouragement.

During this venture Shri Prakash Dhavale and Shri Manoj Kumar Gokhale have made a good job of DTP work, to whom I owe special thanks.

Here I should make a special mention of the sincere contributions of Shri K. Srinivas, Sr. Computer Asst., NIMS, Hyderabad and Dr. RR Somayajulu, Reader in Sanskrit, Goutami Vidya peetham, Rajahmundry, who focused their sharp eyes on the text to make it error-less.

Hyderabad

RVSS Avadhanulu

15.01.1999
For the Reader's Attention

1. Several scientific aspects of computer software are observed in Vedas and Sastras almost in the same form.

2. The approach of compilers in translating the statements of computer languages is found to closely follow the approach of mīmāṃsā (मीमांसा) in its vākyārtha vicāraṇā (वाक्यार्थ विचारणा).

3. It is also observed that certain aspects, which are well established in mīmāṃsā (मीमांसा) are not yet implemented in computers.

4. The present exercise is a humble beginning in the direction of:
   A) highlighting the parallels of both the systems and
   B) exploring the utility of Vedic system for furtherance of modern computer technology.

Author
Book Review

“This is a book on an unusual topic. It gives an overall view of some of the areas where computer language and Sanskrit meet. This could be the launching pad for researchers who could explore whether a system similar to computers existed during the vedic period. The book deals with a very new and interesting area. The author has done a remarkable work in opening up a whole new world for those who are ready to push the idea further”.

-The New Indian Express
(Science Express),
14-12-1999

“Adoption of computer technology for propagating the Vedic Knowledge on a priority basis”

-The Hindu
(Open page),
21-12-1999

“...The Book is well organised in its contents and exposition, and will surely motivate the computer technologists to peep into our ancient systems of knowledge, for improving their technical skills”.

- Rachakonda Mallik
Senior Vice President,
Satyam Computers