

HISTORY OF MANUSCRIPTOLOGY: STUDY OF MEDICAL MANUSCRIPTS

Ala Narayana*

ABSTRACT

Connoisseurs of different areas of learning are apt to hold their particular area higher above all else, as the 'Science of Sciences'. These sciences transmitted to a scholar or to a common man are known through the texts, which are either handwritten or printed. The marvel of accuracy with which the vast literature specially *Vedic* literature has been handed down or transmitted to us orally, from generation to generations in India carried from person to person through mouth and ear, is a matter of great admiration all early literature that is now available in printed form, originally hand written i. e. in the form of manuscripts is the basis for the learning of science & technology today. Hence, it is forced to grant a top place of honor to the science of Manuscriptology and can be considered as 'Science of Sciences'. The scripts; Writing tools; Languages; Conservation, Preservation, Maintenance of the manuscripts; the study of medical manuscripts and its constraints; the strategies to validate the old concepts, drugs, diseases, and methods of treatment hidden in the manuscripts and knowledge application in the medical science are discussed here under.

Introduction

The Sanskrit word 'vēda' is derived from the verbal root 'vid' – to know. It is considered to be a storehouse of knowledge or information that conveys unlimited information. In the past, when knowledge grew in enormous proportions, it was made available in the form of *Vedic* literature. But, handling this knowledge was a difficult task, as it was like an ever-expanding spiral. At the same time, our predecessors could not leave this valuable knowledge to perish by it. Hence, they struggled very hard to preserve this information to the posterity. *Vedic* literature has been handed down or transmitted to

* Director, Indian Institute of History of Medicine, Osmania Medical College Building,
Putlibowli, Hyderabad- 500 095.

us orally, from generation to generation in India carried from person to person through mouth and ear, and all early literature that now available in printed form originally hand written i. e. in the form of manuscripts, which is the basis for the learning of science & technology. Hence, it is forced to grant a top place of honor to the science of Manuscriptology and can be concerned as ' Science of Sciences'.

The clear evidence for writing in ancient India is available as early as 5th Century B.C. Committing texts to writing was necessitated due to enormous growth of knowledge. After the 5th Century BC, we came across several writings on palm leaf manuscripts, inscriptions, plaques etc.

Scripts

The pictorial seals collected from the excavations at Harappa and Mohenzodaro reveals that the Indians knew writing from a very early period. The period of Indus valley civilization is supposed to be between 3rd and 4th millennium B.C. The earliest decipherment of the Indian script in *Brahmi* and the period of its origin might be around 7th century B. C. The next deciphered Indian script in antiquity is Kharosthi 5th century B.C. The early inscriptions found in Kharosthi are the rock inscriptions of Asoka near to Shahbazgarhi and Mansehra.

The scripts were classified into 4 categories viz,

1. Script which is used for printing
2. Script used in inscriptions
3. Script written with pens
4. Script caused by the eating away of the manuscripts by Moths

According to an old text called *Lalita Vistāra*, which was translated into Chinese in 308 AD, it is said that Buddha was admitted to a school called *Lipi Śhāla* (School for learning scripts) and he learnt 64 varieties of scripts and languages. A list of scripts that were learnt by Buddha is also given in that book. Among the scripts, *Brahmi* appears to be the oldest as it was invented in the 3rd Century BC. *Dēvanāgarī* script was fully developed by the 10-11 Century AD. The *Grantha* script, which is older than the

Dēvanāgarī, belongs to the 7th Century AD. In South India, knowledge of *Grantha* script was considered to be a must for a Scholar, as most of the texts were written in *Grantha* scripts. There is a reference in *Mahābhārata* to this *Grantha* script. Kannada script dates back to 4th Century AD. *Kannada*, Malayalam, Telugu have round shaped scripts, whereas *Dēvanāgarī*, *Nandināgarī*, *Mōdi* etc, have box type of letters. Oriya and other scripts are of mixed shapes.

Now, it is necessary to know something about the scribes, who committed the older texts into writing. Sanskrit scholars in those days hardly wrote anything by themselves as they were brought up in the oral tradition. To commit the texts into writing, they had to engage professional scribes. Most of the times, the scribes were not scholars. Hence, these scribes mainly depended upon their ears to hear and record whatever was dictated to them by the scholars. This led to certain distortions in writing.

Languages

The following languages are used for the writing of manuscripts.

1. Sanskrit, *Brahmi*, *Pāli*, *Prākṛti*, Burmese, Sinhalese and Tibetan.
2. Hindi and other regional languages of India, including Nepalese and *Newari*.
3. Urdu, Arabic, Persian.

Writing Tools

The instruments used for writing are termed here as writing tools. Stylus to write on Palm leaves, Reeds, Spines of porcupine, strong quills of birds and suitable twigs of plants were used for scribing on birch-bark manuscripts. At a later stage pen was also introduced especially to write on paper. Chisel was the major writing aid for incising inscription.

Manuscripts

The term 'manuscript' in a broader sense means any document written or incised by hand such as documents or texts written on materials like *Tāla Patra* (palm-leaf), *Bhūrja patra* (birch-bark), *Kumbhi-bark*, *Sacipat* (Agarutvak), Leather (animal skin),

Cloth, *Tulapat* (a type of paper made out of cotton), paper and inscriptions on rocks, pillars, potteries, copper plates etc. The commonly used material is *Tāla Patra* (palm-leaf), *Bhūrja Patra* (birch-bark) to write manuscripts after proper treatment with exclusively prepared oil to make it foolproof or to avoid from breaking in to pieces and to preserve for longer period. Manuscriptology as a discipline might have developed in regions like Indian sub-continent, China, Iran, Greece, where ancient civilizations flourished and have an uninterrupted cultural history of very long period. In India during ancient times though writing was known, the most preferred way of dissemination of knowledge was by oral transmission. The earliest specimen obtained is the fragments of an Indian palm-leaf manuscript are found in Turfan, the date of which is considered as 4th or 5th century A.D. Birch-bark was popular writing material and the earliest *Prākṛti* manuscript of *Dhammapāda* in *kharosthi* script belongs to 2nd century A. D. The Bowers manuscripts 5th century A.D. and the *Bakshali* manuscript in *Śārada* script belong to 8th century A.D. Chinese first made paper and began to write on it around the late 1st or early 2nd century A.D. The ancient scribes used the traditional technology and used the plants for conservation and preservation of the manuscripts.

Conservation

1. *Vaca* (*Acorus calamus*)-rhizome is used as insecticide. The essential oil contains asarone and its isomer.
2. *Vāsa* (*Adathoda vasica*)- the dried leaves are toxic to an insect, which contains the chemical vasine and yields an essential oil.
3. *Nimba* (*Azadirachta indica*)-the dried leaves are placed in the manuscripts for keeping away the moths. It contains Nimbidin and its odor kills the insects.
4. *Bimbi* (*Coccinea cordifolia*)-the essence of the leaf is applied on the inscription to make it legible.
5. *Cincona* (*Cinchna officinalis*)-the root bark is used for conservation.
6. *Twak* (*Cinnamomum zeylanicum*)-the bark leaves and seeds yields cinnamon oil (eugenol) is used as disinfectant.

7. *Sēvantika Bhēda* (*Chrysanthemum cinerarifolium*)-it contains pyrethrum, the essential oil of flowers used as insecticide.
8. *Lavaṅga* (*Eugenia caryophyllata*)- volatile oil is used.

Preservation

1. *Śatapušpa* (*Foeniculum vulgare*)-liquorice powder along with essential oil is used.
2. *Kālājāji* (*Nigella sativa*)- extraction from seeds contains an essential oil used as preservative.
3. *Tāmraparṇi* (*Nicotiana tabacum*)-powder acts as insecticide.
4. *Mañjarīka/Tulasibhēda/Bhūtulasi* (*Ocimum basilicum*)-yields a volatile oil called as basil oil (clove like sent) used as insecticide and insect repellent.
5. *Marīca* (*Piper nigrum*)-powdered pepper in a cloth sachet serves as a preservative, which is kept in between the bundles of manuscripts, which (piperine) keeps away the microorganisms.
6. *Candana* (*Santalum album*)-powder of heartwood upon steam distillation yields colorless to golden yellow viscous liquid is employed in the preservative & conservative of manuscripts.
7. *Śarapuṅkabhēda* (*Tephrosia vogeli*)-leaves are having insecticide properties due to the presence of rotenoids. The seeds & roots are also used to preserve archival material.
8. *Harītaki* (*Terminallia chebula*)-the leaf essence is applied on the inscribed portion of the palm leaf to restore the letters and make them legible.
9. *Ajamōda* (*Trachyspermum ammi*)-essential oil extracted from the fruit called 'Ajowan oil (thymol)' is used in the conservation of manuscripts.
10. *Uśīra* (*Vetiver zizanioides*)-the dry leaves packed in a cloth are used for bundling manuscripts.

11. *Guchha* (*Cymbogon nardus*)-oil extracted from the grass is used as insecticide and also helps in restoring the flexibility.
12. *Nilagiribhēda* (*Eucalyptus smithii*)-yields a volatile oil, which is resistant to insect attack.
13. (*Juncus virginiana*)-the wood yields an essential oil called 'cedar wood oil', which acts as insecticide.
14. *Gandhatṛṇa/Bhūstrṇa* (*Cymbogon citrates*)-used as insecticide and also helps to restore flexibility.
15. (*Oligocheta ferruginea*)-fruits yields fatty oil, which is used to smoothen the palm leaves.
16. *Tāla* (*Borassus flabellifer*)-oil extracted from the leaves is used as insecticide.
17. *Sarala dēvadārū* (*Pinus longifolia*)-is a source of oleoresin, which yields the turpentine oil used as disinfectant and insecticide.

Maintenance

1. Regular cleanliness.
2. Control of humidity.
3. Control of temperature.
4. Control of light.
5. Prevention from fungal/insect (Silver fish, Oriental cockroach, Termite and book louse) attack.
6. Control of air pollution as much as possible.
7. Repair and lining the manuscripts.
8. De-acidification if the manuscript is on paper.
9. Lamination if the manuscript is on paper.
10. Encapsulation.
11. Proper maintenance by using modern gadgets.

The ancient traditional knowledge of healing art is hidden in the form of manuscripts, which is practiced since centuries by thousands of practitioners in different parts of the world, based on the fundamental principles laid down by the sages in classics. There is no change in philosophical background, fundamental principles and concepts, but the applied aspects have not been static. Numbers of diseases, drugs, methods of applications and many others have been developed by the passing of centuries and they were all recoded by scholarly physicians. However, these records on *Āyurvēda* and ancient Indian Medicine is laying unrevealed in the form of Manuscripts, which are scattered through out the world. Unfortunately many of the manuscripts have misplaced or lost or unidentified by the predecessors of the authors due to ignorance of their importance and improper preservation and unorganized documentation. The Indian medical heritage has one of the largest collections of medical manuscripts of any civilization in the world. There is no precise enumeration of the number of manuscripts, but it is estimated that about 200,000, out of which 100,000 unique subjects are available in India. The collections of the manuscripts are found in places like Palaces, residences of *Jhamindār*, temples, monasteries and families of priests, astrologers, traditional architects, and traditional *Vaidyas*. As the importance of Sanskrit language was prevalent and its relationship with other European languages get impressed the westerners and took active interest in the study of Sanskrit language and consequently in the study of *Āyurvēda*. Some of the European scholars and British officials of India has fancy in collecting the manuscripts from India; the British Govt. also gave ample support to them. These important manuscripts were taken away to their homelands and arose awareness in England, Germany for preserving such valuable treasures. The Provincial Governments gave enormous support to the efforts of collection, publication of manuscripts and separate manuscript libraries came in to existence at different places in India, such as Sarfoji Maharaja's Saraswati Mahal Library, Tanjavore; Bhandarkar Oriental Research Institute, Pune; Government Oriental Manuscript Library, Chennai; Oriental Manuscripts Library, Tiruvananthapuram etc. Several of these manuscripts are now available in following institutions viz.,

1. Oriental Manuscripts Libraries
2. Indological Research Institutions
3. University Libraries

4. Private Libraries
5. Religious Institutions – Mutts, Buddhistic monasteries, Jain mutts, Mosques
6. Archaeological departments, Museums & libraries
7. Academic institutions-*Āyurvēdic* Hospital and Research organizations etc
8. Individual collections

Manuscripts are also available in the following foreign libraries.

S.No.	Country	Library	No. of Mss. Available
1	US	Harward University	2000
		Columbia University	2000
		Pensevania/Philadelphia University	500
2	UK	Oxford University	7000 catalogued by Alfred (about 6000 were gifted by Nepal Raja Chadramsū Shekhar) to Great Britain)
		Cambridge University	100-200
		India Office Library, now merged with British Library, London	2000-3500
		Wellcome Trust Library, London	6000-7000 (2000 hand list by Domnik Zeujestic and 1000 microfilmed other collected by Perumal of Amritsar for the trust)
3	Germany	Berlin & Munich etc	35000 (most of the manuscripts were collected from Nepal as per MoU between both countries, microfilmed and digitized by Germany)
4	Italy & other EU countries	Florence & other EU Universities	10000

Theoder Aufrecht in 1890 started an exercise and completed in 30 years to complete a master list of all Sanskrit manuscripts in public collection, which is called as 'Catalogorum'. In 1937 the University of Madras, taken-up the work 'New Catalogus catalogorum' of all Sanskrit Manuscripts in public collection all over the world and collected 394 catalogues were collected, a master alphabetical/title list was compiled and so far completed 13 volumes. At present the National Mission for Manuscripts, has taken up to continue the in collaboration with University of Madras, estimated to complete the total corpus in 25 volumes.

Late Dr. D. V. Subba Reddy, the founder Director of Indian Institute of History of Medicine (CCRAS), Hyderabad, initiated in 1958 to catalogue the exclusive Indian Medical literature entitled 'A Check List of *Sānskrit* Medical Manuscripts in India', which is the first work of its kind in the world, published in 1972 with only 1082 title entries. The CCRAS, has felt its urgency to document the India's precious cultural heritage and access to manuscripts will provide researchers & practitioners of Indian system of medicine valuable knowledge application that can be also applied in the contemporary research and revised it under the title 'Sanskrit Medical Manuscripts in India, with the title entries of 3375.

Study of the Manuscripts

Types of Medical Manuscripts

In India the subject of medical manuscripts relates to the following few categories of ancient art of healing.

- Ayurveda - spread all over India since antiquity and world.
- Siddha - Confined to South India.
- Gso-rig-pa - Confined to Tibetan plateau.
- Unani-Tibb - Greco-Arabian system of medicine came to India along with Muslim rulers and become the integral part of Indian system of Medicine.

Much literature on *Āyurvēda* and ancient Indian Medicine is lying unrevealed in the form of Manuscripts, which were written and transcribed through various eras and years and many of which are still unpublished. It is well known fact, that a vast literature of scientific heritage of India is lying in the Manuscripts unexplored or otherwise lying unexplored in the manuscripts, which require a through study. The medical literary sources may be grouped broadly under the following heads.

1. Manuscripts on Ayurveda and allied subjects.
2. Medical literature.
3. Non-medical literature.
4. Inscriptions.
5. Travelogues.

Arrangement

The collected manuscript codices are to be carefully scrutinized read carefully and should arrange in the following manner.

1. Content of the folio.
2. Colophon if any.
3. Size of the folio.
4. Folio number.
5. Number of lines in a folio.
6. Script used to write the manuscript.
7. Style of language.
8. Size.
9. Characteristic of writing.
10. Language
11. Nature

PROFORMA FOR COLLECTION OF INFORMATION ON MANUSCRIPTS

- 1 S. No: 2 Place I.I.H.M.
Title *Basavarajeeyam* Accession No.03
Donor -
- 2 Name of
a. Author *Neelakantha Kotturu*
b. Redactor -
c. Commentator -
d. Translator -
e. Scribe
- 3 Script- *Telugu*
- 4 Language – *Telugu & Sānskrit*
- 5 Period/Age of original compilation -
- 6 Period/Age of Scribe -
- 7 Format
a. Material *Palm leaf*
b. Size *48 X 3.5 cm*
c. One sided/Both sided *Both sided*
d. No. of lines per page *5 – 8 lines*
- 8 No. of folios/pages *298 leaves*
- 9 Condition *Good*
- 10 Complete/incomplete *Incomplete*
- 11 Colophon/Subject/ important passages etc. *Rasa Gandhaka Suddhi*
Beginning *“Sri Basavarajeeyamuna Asthadhatu nidanambunu
Jwara nidanambunu, Sadhyasadyambulunu.....”*
Ending *“Rasagandhaka tamramchanagavanga.....
Jwarayamaharamchaiva.....”*

Cataloguing

The manuscripts should be catalogued in the following manner.

1. Simple Index.
2. Alphabetical Index.
3. Subject-wise Index.
4. Descriptive Catalogue.

Editing and Publication

The manuscripts are to be published in print media for knowledge application of ancient healing art for future generations to enable to apply in the present scenario.

1. The text of the manuscript should be published as such without making any change.
2. The manuscripts can be published after noting down the mistakes found in the text, eg. Scriptural, lexical, grammatical and subject.
3. The manuscripts can be published the critical editions after confirming the confusions/misinterpretations of the writer, omissions in the subject and reconstruction by adding appropriate subject of missing folios and their parts.

Medical information in Non-Medical Manuscripts

Collection of information from manuscripts of non-medical literature requires good background and expertise in the concerned subject as well as Ayurveda, which is rare. Several useful and efficacious recipes can be collected from works and studies by clinical expertise and other trials. Experts in this field are also rare.

Constraints

To know the issues involved in the study of manuscripts, it is necessary to know the sources of the records/documents for the knowledge of historical development and the changes and improvements in the science relating to drugs, diseases, methods of treatment and so on.

1. Study of manuscripts is quite different from other fields of research in Ayurveda.
2. Problem of handling since the manuscripts are centuries old.
3. Most of the information and conclusions will depend upon on the perfect understanding of the language & script and its interpretation of the individual scholar.
4. Interpretations or views may differ from scholar to scholar.
5. Scholar should satisfy about the authenticity of the information of the manuscript.
6. Problem of deciphering.
7. Drugs & diseases mentioned in the manuscripts vary from region to region.
8. The interpretation of the information without knowing the technical terms and perfectly the language of the script may mislead the Scholar for understanding the right context
9. Identification of nomenclature of drugs, diseases transformed or substituted during the course of time.
10. Retrieval of lost folios may abrupt the study.
11. Faded/torn/insect bitten folios may need special attention for right understanding.
12. Private possessors may not be willing to part with their manuscripts.

Strategies

There are hundreds of manuscripts in Sanskrit and regional language, in good condition and decipherable but still lying unpublished. Steps are to be taken for their study editing and publication. To facilitate the research scholars the following projects will be very much useful.

1. An Inventory of Medical Manuscripts is of basic importance for the scholars for further research in the present scientific scenario.

2. Critical editions of valuable and popular works like *Bṛhattraī* (*Carakasamhita*, *Suśrutasamhita* and *Vāgbhaṭṭa*), *Laghutrayī* (*Mādhava Nidāna*, *Śaraṅgadhara Samhita* and *Bhāva Prakāśa*), *Lōlimbarājyaṁ* etc. should be edited and published authentic editions.
3. Concordance of important works to be published.
4. Dictionary of *Āyurvēdic* terms used in different classics, minor works of different periods with references.
5. A detailed survey and scrutiny of the manuscripts would help to throw light on the history of *Āyurvēda* and its developments through various periods.
6. The scientific documentation will help to prevent from patenting ancient Indian healing art by other countries.
7. Efforts are to be initiated to procure manuscripts from private collections.
8. Ignorant inheritors of valuable manuscripts are to be motivated and educated for the proper utilization.
9. Digitilization of the manuscripts and creation of a Central Data-Bank for accession for researchers.
10. Providing training to technical persons (*Āyurvēda*) in deciphering of the texts, different scripts, preservation etc in the Institutions/Organizations, where the highly professionals in the field with modern gadgets are available.
11. Multidisciplinary research should be carried in the study of manuscripts for validating the old concepts, drugs, diseases, and methods of treatment on the basis of modern science.
12. Workshops and campaigns may be organized for acquainting with the experts for knowledge application to up date.

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सारांश

पाण्डुलिपि विज्ञान का इतिहास एवं चिकित्सा शास्त्र की पाण्डुलिपियों का अध्ययन

अला नारायण

भारतवर्ष में विशाल साहित्य विशेष रूप से वैदिक साहित्य श्रुति परंपरा द्वारा पीढी दर पीढी अथवा एक व्यक्ति से दूसरे व्यक्ति तक पहुँचना एक महान श्रद्धा का विषय है, यह एक यथार्थ आश्चर्य है। पाण्डुलिपियों के रूप में मूलतः हस्तलिखित समस्त प्राचीन साहित्य जो कि प्रकाशित स्वरूप में उपलब्ध है, विज्ञान और प्रौद्योगिकी के ज्ञान के लिए मूल आधार है, इसलिए पाण्डुलिपि शास्त्र विज्ञान के सम्माननीय उच्च स्थान की मान्यता के रूप में स्वीकृत है। आलेख लिखने के उपकरण, भाषा, संरक्षण, सुरक्षा, चिकित्सकीय पाण्डुलिपियों का अध्ययन और उनकी प्रतिबन्धक, पुरातन परिकल्पनाएँ, द्रव्य, रोग और चिकित्सा पद्धतियों को प्रमाणित करने की योजनाएँ जो कि पाण्डुलिपियों में छिपी हुई है और चिकित्सा विज्ञान के ज्ञान का उपयोग आदि सभी पर पाण्डुलिपियों के सम्बन्ध में यहाँ विचार विमर्श प्रस्तुत है।