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CHEMICAL PRESERVATION OF MANUSCRIPTS AND OTHER MANUSCRIPTS: A RESEARCH ANALYSIS

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The basis of the presented research study is related to the knowledge of preserving and preserving cultural heritage through manuscript science. Through in-depth research and analysis, those new facts, conservation methods and techniques have been discussed here in a research-oriented manner. Aalthough the research presented has been discussed from a broad perspective, in the context of research being done for conservation techniques keeping in mind specific types of paper manuscripts, the purpose of analysis and conclusion of the article is based on the sample survey technique. is included.

Scientific suggestions and conclusions have also been presented to keep the life of cultural heritage alive for a long time and to overcome the various challenges faced by libraries for the preservation and conservation of manuscripts, so that the significance of this research analysis in social interest may prove beneficial in the future. Can be contemporary.

Key words

Manuscript, Manuscript Science, Preservation-Preservation, National Archives of India, Archaeological Survey of India, National Museum of India, paper documents, birch bark leaves, palm leaves, copper leaves, clay plates, metal plates, wooden plates, parchment.

Introduction

Nowadays, handwritten texts have come to be called manuscripts, whereas in ancient times, that manuscript was called the manuscript, the draft of which was first drawn on a wooden plank or on the ground or with chalk (Pandu or chalk), then it was purified and taken down. It was there and it was confirmed. This was known as the manuscript.

Today, both 'hand script' and 'manuscript' are used as synonyms of manuscript whereas the word 'manuscript' is being used nowadays for manuscript. Today, all those manuscripts, whether paper or clay, are included under manuscript. (Clay Tablet),

Written on wooden plates, cloth sheets, parchment, metal plates etc. come under this. In the form of manuscript, there can be both inscriptions and copper plates, but the manuscript is related to the book only. From about four thousand years from today till the tenth century, things like stone, plank, leather, metal sheet, silk or cotton cloth, palm leaf and birch bark, wooden

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plaque etc. have been used for drawing. After the tenth century, when paper was invented, these texts started being written on hand-made papers. Although paper was first manufactured in China after the first century AD. Thus, the knowledge of this subject has been considered as manuscript science. Under this, Diplomatic, Paleography, Linguistics, Astrology, Archaeology, Literature, Library Science, History, Research Activity, etc., do not include any one subject in science, rather its relationship has been established with the combination of many subjects.

As far as its relation with library science is concerned, the very existence of library has originated from the storage of manuscripts and manuscripts. In ancient times, all libraries consisted of handwritings and manuscripts only. In Alexandria, Nalanda and many such ancient libraries, all the books were in the form of manuscripts. With the advent of printing art, printed texts started taking shape after the 15th century AD. Ruth De Borden, Robert and Warman in their book 'The Modern Manuscript Library' I said that Manuscript or the existence of a manuscript library itself is required to support researchers and students of science. How to arrange manuscripts and manuscripts, how to preserve them, how to take care of their general safety, regarding how they should be given for reading and how they should be conserved through modern technology etc., only library science explains this subject scientifically, whereas the importance of this science for museums and archives is self-evident we get the basic material of ancient history, astrology, literature etc. from ancient manuscripts only. In ancient times, the first library started in Egypt. Books were written using a plant called papyrus. These papyrus scrolls show that they were used as writing material in 2500 BC. Similarly, these writings have been found on clay bricks in Syria and in the form of many seals in Mohenjo- Daro. This shows that script had developed in India as early as three thousand BC, that is, with the help of manuscript science, we can gain knowledge of our past. After bricks and papyrus, parchment and birch bark were used, and then paper. While explaining the importance of the manuscript, it is treated only after knowing its different types because different types of manuscripts require protection and preservation according to the material of their construction and which should be given in a scientific manner keeping in mind the seriousness of the subject, is expected.

Objective

The following objectives have been set for the study and analysis of manuscripts or manuscripts by identifying them:

1. What is manuscript science?

2. Analysis of the need for manuscript science.

3. Different types of manuscripts.

4. To find out the manuscripts available from ancient times till now and to know about the efforts being made for their conservation.

5. To identify the efforts for their conservation and preservation in different libraries according to the type of manuscripts, to identify the factors of their deterioration and to suggest an inclusive solution by doing a comprehensive study on the conservation and preservation techniques.

6. Finally, to suggest a remedial measure for the conservation and preservation of manuscripts so that as a remedial measure, a research analysis can be presented for the benefit of the library.

Importance

The existence of manuscripts is as old as the invention of script or writing. Five decades ago, the need for a special subject regarding manuscripts was not felt, but after 1870, importance was given to manuscript science when Sanskrit language and literature reached western scholars. Then Western scholars felt the need for a scientific method of reading ancient manuscripts and when they had to read various texts, there was a need for science in that too. The result of which was that now due to the attention being paid to the problem of decaying manuscripts kept in many private repositories, private institutions and private collections, it has been established as a science of manuscripts. Today there are many manuscript conservation centers in India, due to which there is a serious expectation for the conservation of manuscripts. Now, scientific approach should be adopted to study their problems in a holistic manner. Today, the usefulness of manuscript science has been proven, because today there is hardly any university which does not have a collection of manuscripts. In fact, as their reserves are becoming problematic day by day, they are becoming a matter of important concern. Their conservation requires special training and technology. Therefore, it automatically proves that the importance of usefulness of this subject as a supporting science of many subjects is becoming important day by day. For whose conservation, special training and technology is always required. Many universities are continuously engaged in implementing the curriculum related to this subject for the study of this subject. Whereas the subject of Library Information Science, History and Archeology and Manuscript and Archival Teaching-Training in Museology has been included in the syllabus in the form of a specific question paper. In some places, full graduate and post graduate courses have started being taught on this subject.

Research methodology

Considering the utility and importance of this study, it has been found in the storage collections of many universities that the study can be confirmed only when the available reference literature of that subject is studied through scientific techniques. The above research has been conducted through a comprehensive study and analysis of comparatively available literature. On the other hand, this research propounds that if research analysis is done using the survey-based questionnaire technique of social science, comparatively more innovative facts can be obtained. To complete this research, survey and oral interview of many competent libraries

located in Haridwar and Dehradun and analysis of the answers received from them, only survey-based technique has been found suitable to get the conclusions. For this, current related questions of manuscript science and its need, its problems, storage, maintenance, management, training and converting into e-digital format etc. were asked from the libraries through interviews and after analyzing the answers received from them, this research analysis was done.

(Scope of Study)

Although the scope of this subject is related to Diplomatic, Paleography, Linguistics, Astrology, Archaeological Literature, Library Science, History, Research Process Science, Conservation-Preservation, Technological Science and Museology etc. and the literature related to which has been studied here. To complete this research article, more than 10 libraries located in Haridwar and Dehradun were identified and the status of manuscripts and handwritten documents and the efforts being made for their preservation were known. The answers to the questionnaire were obtained through interviews by visiting the surveyed libraries where there was a possibility of finding manuscripts in the collection, where there was awareness about manuscript science, which are as follows -

1. Central Library, Dev Sanskriti Vishwavidyalaya, Shantikunj, Haridwar.
2. Central Library, Gurukul Kangri University, Jwalapur, Haridwar.
3. Central Library, Uttarakhand Sanskrit University, Bahadrabad, Haridwar.
4. Central Library, Patanjali University, Bahadurabad, Haridwar.
5. Central Library, I.I.T. Roorkee, Haridwar.
6. Amazing Mandir Dham, Haripur Kala, Raiwala, Dehradun.
7. Uttarakhand Sanskrit Academy, Jwalapur, Haridwar.
8. Central Library, Uttarakhand Ayurved University, Harrawala, Dehradun.
9. Central Library, Girls Gurukul College, Rajpur Road, Dehradun.
10. M.K. P. College, Doon Hospital Chowk, Dehradun

literature reviews

The various types of manuscripts, their number, their preservation method, their problems and their conservation for future generations are of utmost importance under the sciences that exist together with the various elements that constitute the manuscript.

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Most of the old handwritten texts are from before the creation of paper, but most of them have either been destroyed or are stored in distorted form in various institutions and personal collections. Today, more than 5 lakh handwritten texts of Sanskrit, Prakrit and Pali are kept safe in more than 215 institutions in India. More than 1 lakh manuscript documents are kept in more than 40 institutions of countries like Nepal, Sri Lanka, Japan, Great Britain, France, Germany etc. More than 90 thousand handwritten texts are kept in the Saraswati Bhawan Library of Sampurnanand Sanskrit University located in Varanasi. More than 40 thousand manuscripts are stored in Kerala University, Vivandrum, 65 thousand manuscripts in Sanskrit College, Mysore and 14 thousand manuscripts are stored in Saraswati Mahal, Tanjore. Similarly, there are 20 thousand handwritten texts in Adyar Library, Madras and 30 thousand in the Government Library. Apart from these, these collections are different in different regions of India. Like 25 thousand in Vadodara Oriental, L. 45 thousand in D. Institute, 18 thousand in Bhandarkar Oriental Institute, 11 thousand in Deccan College, 18 thousand in Bharat History Revision Board, 10 thousand in Vedic Revision Board, 8 thousand in Achyutananda Ashram, 14 thousand in Nagpur University, Rajasthan Oriental Research Institute 20 thousand, 30 thousand in Jain Library Bikaner, 12 thousand in Jaipur Library, 20 thousand in Ganganath Jha Research Institute, Allahabad, 8 thousand in Raghunath Temple Library Jammu and Kashmir University, 8 thousand in Mithila Institute, 9 thousand in Asiatic Society etc. and more than 5 lakh handwritten manuscripts in some other small and big institutions and princely states. The texts are preserved. The work of studying all the above collections and making the list was done by P.K. along with Sir William Jones and Lady Jones. Gode had made the discovery even before 1900 AD. Due to institutional efforts, Nagari Pracharini Sabha, Varanasi is a leader in Hindi areas, which has published the details of findings related to manuscript collection since 1900 AD and today this tradition is continuing. These discovery details show how much vast material is still available here and there in villages and cities. Dr. V. Radhavan has created automatic catalogs on the basis of about 400 handwritten bibliographic sheets, a revised version of the catalogs, New Catalogs, has recently been published. On the basis of these various catalogs and the evidence of the reports of Sanskrit Commission and University Commission, it is estimated that there are more than 5 lakh handwritten texts in the country and 1 lakh handwritten texts abroad. Apart from this, many scholars, individuals, monasteries, temples and schools are also estimated to have more than 5 lakh manuscripts. thus it can be said that more than 10 lakh manuscripts are related to Sanskrit only. Through the individual efforts of Colonel Todd, Tesis Terry, Dr. Raghuveer and Rahul Sankrityayan, many manuscripts were either brought to light or, despite their individual efforts, were brought to India from countries like Tibet, Maniuria etc. and stored in the Khudabaksh Library in Patna. Have been done. Similarly, more than 22 thousand manuscripts by Rahul Sanskrityayan are kept for conservation in the Central Archaeological Library of the Archaeological Survey of India, New Delhi and their conservation and preservation is being continuously done by their scientific laboratory.

It has been concluded by Harnath Babu that due to the receipt of permanent records every year

in the Ministries, Secretariats, Departments, Directorates and Collectorate offices of Central, State and Union Territories in India, the number of archival document collections is increasing at a very rapid pace. is. The problem of maintaining the records already available in the archives and provided by various organizations is increasing. Today, huge collections of valuable records are stored in various provincial governments, individual institutions and their own private buildings and places. Today all these collections are available in various volumes, files, maps, charts, manuscripts, microfilm, computer devices and in English and other Indian and regional languages. Many such problems have also arisen in the modern university libraries established after independence which are air conditioned environment, proper arrangement of air and light, damp and moisture free, fire proof, direct sunlight, dust, dirt, smoke free and high altitude buildings. Most of the libraries are feeling the need. Today, due to lack of specific buildings in most of the universities and colleges, more space is being required in libraries for students and researchers due to increased number of users. In our country as well as in many other countries, the conservator first evaluates the condition of the materials and the items used in them and tests them using scientific methods. After this, the elements causing damage to the material are identified and suggestions are given for their treatment for controlling the problems during the storage stage itself and for careful maintenance. India and other countries which have tropical climate. They have great variability with large fluctuations in temperature and relative humidity. Since most of the paper documents are there in university libraries and in the production of these paper documents, cellulosic materials like cotton racks, wood, fat, plant stems, grass and chaff are used. After several years of use, chemical changes begin in the material, which ultimately leads to discoloration and damage. Similarly, the damaged and broken materials of the roof have to be immediately reinforced, which are then repaired using a different method by the testing section of the concerned department. To maintain the stability, quality of paper material and the properties of the chemical elements mixed in it, to maintain the longevity of any paper material or library collection, there are important factors, on one hand, at the same time, temperature control and relative humidity in the storage space, which should be in the ratio of 21-25 and percent respectively, are important factors.

After study and analysis of many referenced literature and after visiting the surveyed university libraries, it has been realized that in most of the government and non-utilized offices and libraries of India, cheap and poor- quality books are generally used to carry out the day-to-day work. Papers are used. due to excess of temperature and humidity, there is rapid growth of insects, termites, fungi and micro-organisms which are dependent on eating cellulosic material as food. They start increasing as the main damaging element, so much so that insects like cockroaches start eating the materials located and written in the university libraries of these countries, growing at a very fast pace. Along with this, due to extreme fluctuations in temperature and relative humidity, the material also swells and sometimes shrinks due to which the cellulosic bonds of the paper start breaking. Paper material gradually begins to deteriorate. Sometimes, air pollution and human-caused destruction and tampering are also considered as factors of degradation and degradation of documents located in universities. Due to the various corrosion

factors mentioned above, air conditioning is being arranged in most of the university libraries.

Now, in order to be free from any kind of dampness related problem, steel shelves are being arranged in the libraries and maximum distance is being maintained from the walls. Today, movable steel shelves are being used in the libraries of most of the countries including India like USA, Britain, Germany, France, Japan and Australia etc. to save valuable documentary materials. due to inadequate financial system, most of the universities are appointing adequately trained personnel to carry out the preservation work in the libraries in digital form and to convert the valuable library documents, research papers and rare books, manuscripts etc. which are getting damaged and convert them into digital form. State Government,
U.G.C. And various grant giving institutions should pay special attention to this.

The National Archives of India, New Delhi has invented many useful new techniques and methods in the field of preservation and examination of paper documents, which are ideal standards for many university libraries and manual document repositories and archives. While giving adequate support to the huge volumes of bound documents and books as per the standards given by them and published by the Bureau of Indian Standards, by continuously cleaning the dust and dirt among them through vacuum cleaner, naphthalene walls, (camphor's) between the documents and the cabinets. By keeping tablets and a chemical called paradichlorovanazine tied in a cotton bag, damage related to insects can be protected.

Insect borne documents are also fumigated by fumigation. For the last several years, it has been found that due to inadequate financial system in most of the universities and libraries of Delhi and Uttarakhand for conservation and storage work, some new proper air circulation measures have also been suggested for conservation and security on the Internet. Along with this, the amount of light in the storage area should be kept as limited as possible. Candles should be installed in place of fluorescent lights as much as possible. the above mentioned are some important standards, which can be accepted for ideal preservation of the documentary materials of the university libraries of Delhi and Uttarakhand. To free the documents of the University libraries from water-borne, fire-borne, dust-borne, moisture-borne, insect-borne problems, the damaged documentary materials are cleaned, dried, treated for fumigation, and the originals are preserved. before sending it, its photocopy should be converted into microfilm and both the treatment and the product should be preserved carefully. All these technical works should be done by trained and experienced persons only. This should be done on priority level for damaged documents. The microfilm process or the digital format content of these documents should be preserved in such a peaceful and air-conditioned building and they should be reviewed from time to time and kept on using them regularly. Famous conservators Caroline Maro and M. Anjaiah, while throwing light on the features of preservation, said that the work of preservation has been in the form of a plan since the foundation of the university library. These documents of our past present before us a natural resource which should not be allowed to be harmed in any way by the present generation and the library scientist must have the knowledge and skill of preservation techniques to keep them healthy because it is true that if efforts are not made to save

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the precious heritages by identifying the factors causing their destruction in time, then they will remain as the memory heritage of ancestors, culture. Bearers of will not be found among us important role of preservation of libraries and archival materials. For the conservation and preservation of the documents and archival materials stored in the libraries of various universities located in Delhi and Uttarakhand, the first process to be adopted is to preserve all the factors of preservation and deterioration in them and to prevent them. , it is called preservation, therefore, it is necessary that these paper documents are first examined and their damage is properly rectified, so that there is no possibility of further damage to them. Today there are many methods that are capable of refurbishing paper materials. Whatever methods are used today, they can generally be divided into two parts from the point of view of preservation of library material.

1. (Preventive Conservation)
2. (Curative Conservation)

1. (Preventive Conservation)

To protect the documents, certain measures are taken for their preservation and maintenance. The preservation of archival documents requires constant care even after they have been repaired and restored. Along with the knowledge of what kind of methods should be used to control them, as well as the knowledge of handling manuscripts, storing them, carrying out minor repairs on documents and when to seek additional expert advice or laboratory testing. The librarian should also have the ability to identify where help should be taken. So that they can save the cultural heritage by controlling it from various destructive elements through preventive conservation for the future generations.

2. (Curative Conservation)

Under the remedial conservation aspect, the first phase of observational or preventive conservation treatment is followed by response. The importance of preventive or preventative conservation is very high in our country. Proper conservation facilities are still not available in most of the libraries and archives etc. of our country. The reality is that if the damaging elements of the documents are tested and known in advance, we can easily save the life of many library materials and documents. In the presented research, some new measures of prevention and conservation have been suggested so that library materials can be protected from the effects of various harmful elements.

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Nature of materials contained in the documentary materials of the University Library

birch bark, palm leaves and parchment

Manuscript materials: The birch bark seats used for writing purposes before the advent of paper in India consist of many thin layers. The source of their attainment is believed to be from the Bhojpatra tree growing at the Bhojvasa site in the Himalayas. Bhurjchhal is originally related to the Himalayan region. In comparison to many Bhurjchhals of the sixth-seventh century BC, its leaves are now widely used most of the palm leaf manuscripts are under the protection of various organizations and private individuals across the country. Most of the palm leaves are from before 11th or 12th century AD but now as a result of the external environment, the adverse effects of Tejavi have started falling on them with intensity. Due to which their lives are deteriorating despite their continuous efforts this is the reason that as a permanent remedial measure, efforts have now been started to save them by finally converting them into digital format. This study proves that ultimately adopting digital technology based on modern information technology as a form of conservation is the most effective solution.

Research Findings

In the above research survey, the status of maintenance and management of manuscripts of the institutions whose status was found by interviewing them through questionnaires, makes it clear that the standards and principles of the National Archives of India for the preservation of manuscripts and manuscripts were followed by various scholars. should be done, it is not being fully complied with because there is a great lack of knowledge of documentary preservation and conservation in these institutions, which is very important to be taken at the right time, so that we can preserve and preserve our cultural heritage to our future generations, through manuscripts, at the appropriate time and make them invaluable. To preserve the cultural documentary heritage for future generations, the Archaeological Survey of India, National Archives of India, Indian Museum Centre, N. R. l. C. Lucknow, we can make our invaluable contribution as much as possible in fulfilling the objective of UNESCO and National Manuscript Mission.

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