MODERN MUSEUM
Organisation and Practice in India

By
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With a Foreword by
Dr. Grace Morley

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To
The Pioneers of
Indian museum movement—
Sarvasri
Rai Krishna Das    D.P. Ghosh
Moti Chandra       C. Sivaramamurti
Museum people generally are not much inclined to the use of words; they are very likely to shy away from writing about their daily work and the skills applied to it. This is because their entire training and professional activity are focussed on museum objects—concrete, three dimensional "things", in the museum collections, which they handle, study, record and use in exhibitions, to express themselves and their knowledge. They, therefore, differ in their attitude and action from the usual scholar, who likewise gives his attention to museum collections, but more abstractly, looking at objects, reading about them, writing about them, but having all too little direct physical and emotional contact with them. As a consequence of this reticence by museum workers about their activities, the very important and necessary work behind the scenes in museums, required for keeping objects safe and using them for the knowledge of the public, and for producing the exhibitions, which are an aesthetic delight, as well as a potent instrument of instruction, are not much described and discussed for the benefit of the general reader. Yet museum work has its own excitement and satisfactions, especially those of being a direct link between the world of expert knowledge and the general public, which it is designed to serve. It is, therefore, a very great satisfaction to a veteran of more than forty years as a museum worker to be asked to introduce to interested readers a book by two experienced museum professionals, actively engaged in varied aspects of museum operation, who have given them much thought and have the will and the skill to write about them. Mrs. Baxi and Mr. Dwivedi invite us to join them in their museum tasks and in their thinking about their work, in order to gain some insight
into what museums are and do, and to understand their problems and their possibilities. They call on us to consider improvements and developments of museums from the viewpoint of the professional insiders working in them, devoting their lives to them.

Both authors are particularly well qualified by training and experience to think and write about the subjects that they have chosen here. They both are on the staff of the National Museum, New Delhi, and have been associated with its work since its removal to the first unit of its own new modern building. They contributed to the organization of its collections in exhibitions, according to a consciously didactic and attractively modern pattern, designed to serve education and general culture, for its inauguration in December, 1960. They participated in the beginnings of the development of all its services, professional, technical, scholarly and educational. As the National Museum represented, at the time of its opening in the new quarters, something of a departure in the direction of an institution of general service to the community, in terms of international museum practice, yet strove to find Indian ways of doing so, their own development, as the Museum itself grew, offered them unusual opportunities. Both have had the advantage of going abroad in direct connexion with their profession, which always provides useful perspective and the stimulating possibility of comparisons. Both are professionally well equipped for their work. Both represent a first example of their type in the museum profession, just as their Museum, in which they have now served so many years, represents in so many respects an initial example.

Mrs. S. Baxi is a professional architect. She brings to her work in the National Museum all the technical knowledge and skills of her calling, and in designing exhibition presentation, working in close collaboration with the specialists in each field. She is, therefore, able not only to bring into effective form the material to be shown, but she is able to apply a contemporary style, which assures freshness and the attraction of complete harmony with the feeling of the period. This is important, for though presentation styles do not change quite as rapidly as fashions in wearing apparel, they do change, none-the-less, and
a museum presentation style out-of-key with its time can seem old-fashioned and boring and therefore will not attract the sympathetic attention of the public and so fail to a great degree in its aim. To design exhibitions, therefore, takes taste, knowledge of professional techniques and available resources, but also alert sensitivity to the changing aspects of the international exposition-exhibition world, yet with a discrimination which clearly differentiates the style of the museum exhibition from the decorator's commercially oriented display in shop or exposition. She is the first, and, up to this time, only architect-exhibition designer holding a regular post in an Indian Museum.

In addition to training abroad as an architect, Mrs. Baxi participated in the meeting of experts, architects and museum specialists, organized by ICOM (International Council of Museums) in Mexico in 1968, in the framework of the Museo Nacional de Anthropologia, probably the world's most thoroughly realized museum, in terms of both architecture and presentation of museum archaeology and ethnography, and of the new buildings of other museums, of varied kind and architectural style in Mexico. She has served as consultant on exhibition designing and installation for other museums in India; she has lectured and written widely on her special subjects.

Mr. V.P. Dwivedi is both a practical museum man and a scholar in the classic sense. He is the rare student of books and manuscript sources, studying and writing about objects of archaeology and art, who also has the interest and skills of the museum professional, taking responsibility for handling museum objects, with the intimate knowledge of them and feeling for them that such direct contact implies. As a member of the Technical Unit of the National Museum, he had experience with all phases of Indian archaeology, arts, decorative arts, though his original training was in Indian archaeology and culture, and his present doctoral studies and research programme concern Indian ivories and Rajasthani miniature masters' drawings. He accompanied the major exhibition of Ancient Sculpture from India on part of its tour of the United States' museums. He has seen museums in that country, in Mexico and in Europe. He was a member of the staff of the Cleveland Museum of Art, as research officer on Indian material and carried on graduate studies
in Western art history and primitive art, including pre-Columbian art, at the University there. He is now Deputy Keeper in Western Art and Ancient Art of the Americas at the National Museum, New Delhi, which has a large and distinguished collection of pre-Columbian art, the only one to be found in Asia. His experience of museum techniques is, therefore, very wide and truly international in scope. His scholarly knowledge in his own fields, and in those for which he has responsibility in the collections of the National Museum, of which he holds charge, is sound. He has written widely on museological and scholarly subjects.

In short, the interested and intelligent reader, desiring to learn about museums in India and museum professional and technical subjects in general, as they concern conditions in India, could hardly have better guides. As for their museum colleagues in the country, they will be eager to consider the issues and subjects, with which they too are deeply concerned, here thoughtfully and expertly discussed. For them this book by Mrs. S. Baxi and Mr. V.P. Dwivedi is likely to be a basis for museological debate, and a handy reference volume as well, for some time to come. Indeed with that aim its authors have organised the book with great care in order to examine and explain in a logical way and by specific examples the nature of museums and their value to society. It is concerned with archaeology/arts/ethnology museums, of which they have intimate experience and which they can therefore describe and discuss with authority. As the majority of museums in India are of this type, the book is directly pertinent to museum work in this country and can be expected to have wide use. However, it is well to recall that the general principles of museology, and their application in museography, remain basically true for the entire range of museum institutions as defined in Unesco’s definition, spanning aquaria to zoological museums and gardens, which Mr. Dwivedi quotes in The Museum and Its Functions.

After general consideration of the museum in the Introduction, the volume examines stage by stage, in logical order, the procedures carried out by museums in acquiring, recording and documenting collections. The buildings for museums, in their major aspects and facilities, are discussed thoroughly as a natu-
ral prelude to examination of exhibitions and their presentation, considered from every point of view and emphasising strongly practical aspects of organisation and display. Temporary exhibitions, so valuable for attracting a new public, focusing on a specific subject and allowing for exhibition and educational activity on items from museum collections not on continuous exhibition are included in the discussion. The process of interpreting museum collections and exhibitions for the benefit of the general public are not overlooked, and receive detailed attention and include discussion of both museum education and publication in some detail. Several aspects of the care and safeguarding of museum objects are considered under the heading of Museum storage, Care and handling of objects, Thefts and their prevention. This latter item represents a very lively concern for all museums at this time and the suggestions brought forward are pertinent.

The final section of the text, on the Future Role of Museums in India, examines thoughtfully the potential development of museums, the extent to which other kinds of museums, more museums, and museums more widely distributed throughout the country can be foreseen and their growth in these varied directions can be encouraged. Again a good deal of attention is given to practical aspects of the subject. The future, as outlined by Shri Dwivedi, seems promising. Admittedly all the desired improvements and additions will take time, but on the basis of the thoughtful attention this book gives to museum conditions in India, it would seem that a favourable climate for museums is being established and from the professional point of view museum personnel for future leadership already exists and clearly can be expected to increase.

The Appendices, including Museums in India and Job Opportunities, describing professional organisations of interest to museum professionals and other data contain valuable information of an immediately practical kind, extremely useful as reference for Indian museum workers, but indeed for all those interested in museums in India, as part of the international museum movement. The Selective Bibliography is a most useful addition. Indeed these final factual supplements to the discussions in the text illustrate the practical emphasis of this useful volume that
the two authors, Mrs. Baxi and Mr. Dwivedi, have produced as a result of their experience and their constructive conclusions and recommendations based upon it. We of the profession can all be extremely grateful to both of them for putting down, in order to share them with us, their experience, their thoughts and their recommendations.

ICOM Regional Agency in India, New Delhi

Grace Morley, Representative
Preface

The museum today is not merely a repository of objects; it is concerned with the acquisition of the objects as an integral part of a specific programme of scientific research, education, conservation and demonstration of the national and cultural heritage. This book aims to project the museum as a dynamic institution actively involved in these functions. It has been planned as a guide to the students of museology, the beginners in the profession and to the curators of the smaller museums, who have to carry out the task all alone without any guidance and expertise. We do not claim to present final solutions to all problems but merely guidelines for analysing them so that they could be easily tackled. The concept of a museum is constantly changing to meet new demands; what may be considered a must today will become out of date tomorrow. Yet the general concepts remain the same and it is hoped that this book will be useful to our colleagues in their day-to-day work.

The emphasis on education as a function of the museum is comparatively a new development, especially in India. How to achieve the best results from museum exhibitions in order to impart education has been discussed at length. The new tasks which museums are called upon to perform in our rapidly changing society also form topics of our discussion. And in all these discussions, the circumstances, limited finances and resources of Indian museums, have always been kept in view. Although everything recommended here may not be possible to achieve for every museum, even if a part of it is applied, much improvement in the situation can be seen. Mere consciousness of the problems does not help in finding solutions. An active thinking for adaptable measures can go a long way in meeting the difficulties and step by step changes can gradually but definitely improve the museums. It is necessary to consider all the aspects for the development of museums, so that ways and means can be found to implement them.
To increase the book's utility for the students of museology a number of appendices have been added at the end of the book. These include a comprehensive state-wise list of museums in India, job opportunities in Indian museums, courses offered by various universities, and the details of the professional organisations such as ICOM and Museums Association of India. Important proformas needed in day-to-day museum work have also been given at the end.

While choosing the illustrations care has been taken to include Indian examples, many of them came from the National Museum, New Delhi. Central Museum Pilani has also provided some illustrations. The Cleveland Museum of Art, Cleveland, Ohio, U.S.A. is the foreign institution which has been chosen to illustrate display techniques.

The authors will like to take this opportunity to thank Dr. Grace Morley for agreeing to write the Foreword for the book. In fact, she has been the main source of our inspiration and but for her encouragement at every step it would not have been possible to complete this work. We are also grateful to Shri O.P. Agrawal, Editor, the Museums Association of India, for allowing us to use some of the blocks published earlier in the Journal of Indian Museums and for his valued suggestions. Shri Suresh Lal, Artist, National Museum not only allowed us to use some of his photographs of the Central Museum, Pilani and National Museum, New Delhi, but designed the Ganesh-Shakti sketch and the book-jacket also. We are grateful for his help. We are grateful to Shri S.P. Nanda for the colour transparency of the cover. For other photographs we are grateful to Shri C. Sivaramamurti, Director, National Museum and Mr. William E. Ward, Designer, Cleveland Museum of Art, Cleveland, U.S.A. We are grateful to Shri Jayant Baxi for his valued suggestions. We are also thankful to Sarvasri M. Girdhar and Mohan Lal for the drawings and Jagdish Prasad Gupta and Km. Mohini Devi for typing. Km. Sashi Prabha Asthana helped us in proof-reading. To them all and other colleagues and friends who have encouraged us in this venture, our sincere thanks.

Smita J. Baxi
Vinod P. Dwivedi

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INTRODUCTION
Why Should We Have Museums in India

The other day an economist, climbing with me the steps of the National Museum, asked, “Tell me whether India really needs museums at this juncture? What we badly need is a self-sufficiency in food and industries and advancement in technology. Why waste money on museums, a thing which can wait. We can have museums when our bellies are full.” The question was so unexpected and direct that for a while I was taken aback. But pulling my senses together, I put forward the following arguments which convinced him of the need of opening more museums in India and raising the standard of those already existing.

The museum is an institution which performs all, or most, of the following functions: collecting, preserving, exhibiting and interpreting the natural and cultural objects of our environment. Foremost among these is the function of collecting the museum objects. Preservation and exhibition follow. If the Indian museums stop collecting the objects, what will happen? The answer is obvious. With the latest craze of the American, West German and other European museums to have collections of Indian art, it is almost certain that these objects will land in those museums. And by the time our bellies are full as suggested by our friend, there will be nothing left for us to obtain for our museums. In fields like anthropology, the urgency for making collections is even greater. Indian society is passing through a transitional phase—from an agricultural to an industrial economy and even tribal people are changing their mode of living. The religious outlook is also changing. Things of the immediate past are perishing
in piles of discarded things in homes. There is an urgent need to collect these and to make full documentation on them.

Further, if left to themselves, even the big monuments will be targets of vandalism. In fact, that is what was happening in the past before the Archaeological Survey took care of the monuments. We know that someone broke the Asokan pillar at Sanchi to use it as a sugarcane crusher and most of the Bharhut stupa sculptures were used as building material in the neighbouring villages. Certain other museum objects, like textiles, paintings etc. will be eaten up by insects if left to themselves. Thus, even if one agrees with our friend that we can defer the opening of museums, we have to acquire the objects now to save them from being lost forever.

Once collected, there is always the question of preserving the art (or archaeology or anthropology) objects. Most of them, when they arrive at the museum, are in damaged condition—sculptures in pieces, textiles moth-eaten and paintings flaking and losing their colours. These have to be repaired immediately to lengthen their lives and to preserve them for posterity.

After collection and preservation comes the exhibition. "Why exhibit?" was the other question my friend asked me. He is a champion of the common man and so my reply was that in order to make these objects accessible to the common man it is essential that these should be exhibited. Otherwise knowledge of the objects will remain limited to a few scholars only. Exhibition is the only way of making a didactic use of art objects.

Bent upon criticising things, my friend then complained, "Why waste lots of money on making these exhibitions so attractive? For instance, why this cloth background?" he pointed towards a showcase in the Pre-Columbian gallery. I took him near the showcase and showed him that the cloth used as background was the least expensive, that of hessian. I further told him that it was essential to use such cloth to bring out the rich colours and variety of the objects displayed. Moreover, in the long run, the cloth can be reused and is thus more economical than other backgrounds. The reason for making the exhibition so attractive, I explained to him, was to
make people come again and again to make use of museum objects.

"Use of museum objects!", my friend looked surprised and asked, "what use could the museum objects be put to?" Before I could explain to him, he got the answer to his question in the next gallery. There we met a horde of small children, going round the showcases with their teacher who was explaining to them about the Indus Valley objects. Our friend also listened to her lecture and said that he could never think that the museum objects could be so helpful for students. Later he met with many more students of the art college copying designs from textiles and was pleased to see the inspiration derived by the students, young ones as well as advanced, from the art objects. I explained to him that in performing an educational function, museums provide a kind of learning that is available nowhere else. Schools and colleges recognise this by relying on museums to provide what books cannot—great works of art in the original, significant historic objects, specific specimens which are original evidence of the nature and evolution of man and his world.

The main difference between the school and museum is that museums are wide open to individual exploration, outside the restrictive framework of a classroom or a curriculum. There are no examinations, no bells to signal the time for a class. There is, on the other hand, a special effort to make learning attractive, even fun. The other difference lies in the fact that words are the principal educational tools of a school, whereas objects are the principal educational tools of a museum. And it is an established fact that a visible, tangible, concrete object has more meaning for some boys than the words which are abstract. I told my friend that sometimes museum experts and educational instructors visit schools to deliver lectures on special subjects. So, the museum is not confined to its premises only but goes out also to serve the cause of education. The other unique quality of a museum is that it is permanent; its treasures remain to be revisited after weeks or years or decades. In such a world of so much transience, in which paper crumbles and last year's film is out of date, objects and dioramas to which one can return again and again at will—bound by no schedule, compelled to no sequence—have a special value.
In another gallery we came across a foreign couple seated on a sofa looking at the Gupta period image of Lord Vishnu from Mathura. They were so absorbed in their meditation that they did not take notice of us. This again was something new to my friend who asked what they were doing. I told him that they were relaxing and at the same time enjoying the sculpture. I further explained that with the increasing stress on mechanisation, people have now more leisure hours than before and we have to find out avenues where they can spend their time with profit. Museums "offer an opportunity to satisfy curiosity which may be transferred unpredictably from that which is idle and rootless to something quite different."

Another question our friend asked was whether the foreigners knew Indian art. I said that it was quite possible that they knew Indian art as many foreigners do now. But even if they did not know it they could certainly appreciate the inherent aesthetic appeal the sculpture had. In fact, I told him, art is the best means of increasing international understanding and to support my statement I quoted Dr. S. Radhakrishnan's speech which he delivered while inaugurating the National Museum in December, 1960, "if you have here art objects, sculptures and paintings of other countries of the world, you will see how fundamentally akin the human mind has been."

Unfortunately our friend had to leave the museum to keep his next appointment but he promised to make many more visits to the museum and agreed with me that for a balanced development of Indian citizens museums are as essential as are the scientific laboratories and industrial units. I told him that an essential task of a modern museum is to give people a richer sense of the past and a more personal stake in the future by binding their present to their past with pride and affection.

On his way to the museum exit my friend saw museum publications and reproductions in plaster casts and was pleased to see the extension of museum activities on nominal cost. The pleasure which he derived from his visit made him say that museums are the institutions which inspire one with 'some kind of tranquil hope and heroic cheerfulness that the present crises and catastrophe in the conflict-torn world are not the end but that man is still invincible.'
Museum and its Functions

Museum, as we see it today, is the result of a growth of several centuries. Originally the term ‘museum’ was applied to a place sacred to the ‘Muses’ with whom glorious events of the past, folk art, music and poetry, gaiety and harmony were associated. These ‘Muses’, nine in number, are the goddesses or inspirers of all learning and art.

If we review the development of museums, we will find that the museums have now entered in the third phase of what may be considered as modern development. The two earlier phases in general terms may be considered as (i) assembling collections, sometimes using them for research and publications also. This was the ‘store house phase’. (ii) The second phase brought a little more development, that these objects were taken care of, preserved, put on view but with no effort beyond systematic grouping, the phase of service to few. (iii) The third phase started with presenting material from collections in exhibition galleries in a manner to attract and instruct the general public. In this phase museum became instrument of education at every step, without in any way diminishing their utility to scholars and specialists or their importance for growth of knowledge. While emphasising the importance of educational role we should not forget that the true conception of a museum is not that of an educational institution having art for its teaching material, but that of an art institution with educational uses and demands.

‘UNESCO’ in its publication ‘Regional Seminar on the Educational Role of Museums’ has defined museum thus: “A museum is a permanent establishment, administered in the general interest, for the purpose of preserving, studying, enhancing by various means and in particular, of exhibiting to the
public for its delectation and instructive groups of objects and specimens of cultural value; artistic, historical, scientific and technological collections, botanical and zoological gardens and aquarium etc."

This is a comprehensive definition in the sense that it not only includes the various categories of museums but also those public libraries and archives which maintain a permanent exhibition room. It likewise includes living objects like plants, animals, fish as well as inanimate items, commonly thought of as being in museum collections.

We are passing through an era of science or to be more accurate we can say the space age. This is the age of specialisation, which has reached every direction, even where machines are not primarily involved. But a man cannot be merely a cog on the wheel of the machine of a specialized society. He demands diversion and insists on his window to the sky. Where does he get it? Could it be the museum? For a museum offers opportunity to escape from routine to find a share of that freedom which is peculiarly human, not a mere negative attitude of running away from things but a positive expansion of self through a diverting activity.

We are all engaged in what may be called the ‘romance of living’ which has three sides (i) for the first side, it has its hero, a role that every one of us privately sees himself playing, (ii) the second side of this is the task—which ordinarily includes a number of things such as our responsibilities to others, pursuit of career and so forth, (iii) it is the third side of romance of living about which our happiest day dreams linger. It may be almost any thing, but it is obviously the furlough from the stern campaign of life. This side may be fittingly styled as ‘avocational’. But there has to be a place for it, and this may well be a museum, which offers an opportunity to escape from routine.

The faster trend of specialization brings us more and more of leisure. Just as we can see today that we have shorter working-hours and more leisure than did our forefathers, so we can project this trend into the future. It is the museum’s role to furnish guidance and inspiration for the successful utilization of this spare time, and to provide the place for mentally healthful pursuits.
Besides, curiosity is a human characteristic. The man wants to know about everything. From the very childhood we find that a baby wants to see through, whatever he or she gets, whether a toy or a machine. The intention of the baby is not to destroy it but it is his curiosity which compels him to act that way. Museum helps to satisfy this primary instinct of man, it caters to all men, whether scholars or students or children, educated or uneducated, to know about their surroundings.

At the same time the museum must not exhibit strange and unheard-of things, but rather familiar and near familiar things. Because we do not learn from astonishment but from exposition. To things within the range of our experience we can gradually add factual information which will fill in the gaps and round out the corners. Thus, step by step the museum goes on from the near-at-hand to the less near and thus learning is made possible.

But why do we want to learn? Surely to expand our minds, to realise our potentialities, to balance ourselves for the step from our past and present limitations forward to a more generous future. Our psyche demands expansion.

Having described the need of a museum we now come to its functions. As is evident from the definition given by UNESCO the museum has three main functions:— (1) that of collection, (ii) preservation and (iii) exhibition. Besides these main functions every museum has its own programme. For instance the programme of service to scholars and research workers, publications, providing reproductions of masterpieces and so on and so forth. All these functions are well known to those who are in this profession. Here, we would like to discuss certain other basic but less known functions of the museum.

As the very definition implies, the museum’s primary function is to be a source of inspiration, because the ‘Muses’ whose house it is, are goddesses of art and music and are eternal inspirers to men. If a place is not inspiring, it cannot be a museum. A museum should be able to give its visitor a lasting impression, some experience which could introduce a new element into his life.

In one of his novels Dickens writes to the effect that we need not worry about the future of the human race, for each
new born baby is proclaimed to be the finest. It is somewhat the same with the museum acquisitions. For each new specimen is the finest, that is, it brings the collection nearer to the perfection than before. So, a museum should always try to grow its collections, by purchases, by gifts, by loans etc., of course this should be done on a very selective ground and according to the needs of the museum.

To save the museum from becoming a dull, routine place it is necessary to have a dynamic series of programmes. The ideal of a museum should be to have a notion of progress, of change and of evolution. When change ceases, a museum is no longer truly alive. All parts of a museum are in periodic need of a re-inspection, reappraisal and rearrangement. Change is the law of life. So, re-examination of exhibits and programmes is constantly in order at a museum.
Staff and Administrative Set-up of Museums in India

The Curator

Of all the factors which can make or mar the success of a museum, the personality of the Curator or the Director, as the case may be, is the most vital. The building and exhibits form only the body of a museum, the curator infuses life into it. Everything depends on the right choice of the curator and the support given to him, i.e. a curator has to have a good team of workers to help him in his task and should enjoy the full confidence of his superiors.

Besides holding a post-graduate degree in the subject concerned (Archaeology, Zoology, Anthropology or Art whatever be the case) a curator should have basic knowledge of museum techniques. It will, therefore, be necessary for a person before becoming a curator that he should have worked in a museum in some other curatorial position. A degree or diploma in museology also helps, but a man with experience is better than a fresh degree holder. Above all, a curator should have a very real liking for the objects in his care, he must enjoy looking after them and feel a continuous urge to learn more about them. He ought to have a sense of order and public responsibility. Besides these professional qualities he should have some experience of running day-to-day office administration also.

The Technical Staff

Depending upon the size and finances of the museum, a curator has to have two categories of staff members to help him in his work: (i) those dealing with actual specimens and (ii)
those dealing with exhibition, showcases and maintenance etc. In the first category come the curators of collections like sculptures, zoology specimens, or paintings, conservators and educators all of whom work with the actual specimens. The other category is comprised of photographers, carpenters, artists, cleaners etc. Watchmen and guards also come in the second category and are essential for the proper maintenance of a museum. A good museum has to have a good library also.

However, in a small museum the curator has to be a ‘jack of all trades’, ready to turn his hand to almost any kind of work. This is true in the case of most of the small museums in India.

In a bigger museum, staff requirement also multiplies and following additional types of staff can ease director’s or curator’s burden:

(i) Mount-cutter for miniature paintings;
(ii) Darner for textiles;
(iii) Book-binder for manuscripts;
(iv) Taxidermist for zoological section;
(v) Modellers;
to cite a few category of workers.

Administrative set-up

As for the administrative set-up of the museums in India, museums can be grouped in several categories on the basis of government they are responsible to.

One of the main divisions is based on the nature of grants received by the museums and control exercised by the governments:

(1) Central Government museums, as National Museum, New Delhi and site museums of the Archaeological Survey of India.
(2) State museums, as State Museum, Lucknow; Govt. Museum, Madras.
(3) University, college and school museums—Bharat Kala Bhavan, B.H.U., Varanasi; Medical Museums.
(4) Local-self government museums, as Allahabad Museum, and Sanskar Kendra, Ahmedabad.
(5) Private museums—Maharaja of Jaipur Museum; Birla Academy of Art, Calcutta.
Most of these museums, with the exception of the National Museum, the Indian Museum and the Salarjung Museum, etc., have a curator only in the name of technical staff and he has to attend to every need of the institution. It is high time that more staff members are provided to the smaller museums.

Another very important factor is the social status of museum curators in the society. This has to be raised to attract persons with good academic records to this profession. Yet another improvement is needed in the pay structure of museum personnel, only then can the smooth growth of museums in India be guaranteed.

**MUSEUMS IN INDIA**

(Classified on the basis of collections and functions performed by them)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Category</th>
<th>Example</th>
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<tr>
<td>1.</td>
<td>Anthropology Museums</td>
<td>(i) Chhindwara Museum.</td>
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<td>(ii) Delhi University Museum.</td>
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<td>2.</td>
<td>Archaeological Museums</td>
<td>(i) Satichi Museum.</td>
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<td>(ii) Gurusaday Museum, Calcutta.</td>
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<td>(ii) Air Force Museum, Palam, Delhi.</td>
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<td>7.</td>
<td>Fort and Palace Museums</td>
<td>(i) Fort St. George Museum, Madras.</td>
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8. Multipurpose Museums
   (i) National Museum, New Delhi.
   (ii) Prince of Wales Museum, Bombay.

9. Natural History Museums
   Natural History Museum, Darjeeling.

10. Personalia Museums
    (i) Nehru Museum, Teenmurti House, New Delhi.
    (ii) Gandhi Museum, Rajghat, Delhi.

11. Science and Technology Museums
    (i) Visvesvaraya Museum, Bangalore.
    (ii) Central Museum, Pilani.

12. Specialised Museums
    (i) Museum of Forest Research Institute, Dehradun.
    (ii) Calico Museum of Textiles, Ahmedabad.

13. Temple Museums
    Sri Meenakshi Sundareswar Temple Museum, Madurai.
ACQUISITION
AND
REGISTRATION
Modes of Acquisition

Acquiring exhibits for a museum is the first task one has to attend to start a museum. This is possible either by:

1. purchase, or
2. gift, or
3. loan, or
4. exchange, or
5. treasure-trove.

Most of the objects in an Indian museum are acquired by purchases, which is differently controlled in different museums. In government museums like the National Museum, New Delhi, purchase is conducted through a high power committee appointed by the Government of India. Specialists in different subjects serve on this committee and a separate budget is set aside for this purpose. In a privately controlled museum, usually it is the whim of the President or Chairman which counts for purchase of objects.

Not many objects are acquired through gifts in India, whereas in U.S.A. the case is just the reverse. Most of the objects in U.S. museums are acquired by gifts. This is because of the income-tax remission they get on such gifts. If the Indian museums want to encourage donations, then government will have to introduce some such legislation.

Loan to a museum can be of two types: short term and permanent. Most of the objects given by the Archaeological Survey to the National Museum are a permanent loan, i.e., the ownership rests with Archaeological Survey but they are in fact permanently transferred to the museum. Short term loans are usually given for a specific period, often for a particular exhibition or occasion.
Exchange is the most rational way of obtaining new exhibits for museums without much expense. Duplicates and triplicates should be exchanged with such items which are unrepresented in the museum.

Treasure-trove objects are those which are found in chance digging. According to the Indian treasure-trove laws, such things, either coins or statues, belong to the government and are transferred to the local museums.

A museum should constantly try to fill its gaps by acquiring new objects through one of the above-mentioned sources, only then it can sustain the interest of visitors.
Exchange Between Museums—
A Fresh Approach to Acquisitions

Any living museum has to keep growing to sustain the interest of its patrons and to attract more visitors. The usual modes of acquisitions employed by a museum are: purchases, gifts, treasure-troves and archaeological excavations. Among these, the most common way of acquiring objects is by purchases. But as things stand today, it is becoming difficult, rather impossible, to buy things because of soaring prices. Post-independence popularity of Indian art in the international field has on the one hand served our cause well in that more and more exhibitions are being arranged abroad and new research publications are appearing. But on the other hand, the popularity has done harm also by raising the prices of art objects. In such circumstances, the only ray of hope lies in mutually agreed exchanges between museums.

Besides the price factor, there are other reasons also which force us to think of exchanges. They are: the problem of the lack of exhibition and storage space; the paucity of funds; and the dangers of fakes, etc. Let us take these one by one and see how exchanges can help to solve these problems.

Most of the Indian museums are government institutions and get their funds by allocation by their respective governments. The funds allotted are hardly sufficient to run the institution properly and to buy additional objects, that is to say funds for constructing new buildings or adding wings to old buildings are practically non-existent. The result is that we have to squeeze material every inch of space and still we are space-thirsty as the collections keep growing. What do we do with the material which we cannot display or which are dupli-
cates? It is high time we should evolve a policy of reviewing our collections every five years in order to weed out material not required by the museum. After such a list has been drawn, it should be circulated among the sister institutions so that each can pick up things which fill their gaps.

All of us are aware of the problem of forgeries of art objects. Almost every other day we are confronted with objects which, though they look very attractive, are actually nothing but copies of originals. This is especially true for miniatures (especially in the Mughal and Kishangarh schools) and bronzes, as these can be easily taken out of the country and hence the demand for them is greater than for sculptures, etc. Not every museum has means to detect these fakes but when we exchange objects between two museums at least we know what we are dealing with and are certainly safer than buying an object from a “dealer”.

There is yet another problem, a problem of national importance which exchanges can contribute to help remedy and that is the need of national integration. In most of the cases our museums, barring a few, are regional in character. The result is that a south Indian visiting a southern museum sees only south Indian objects and his counterpart from the north sees only northern objects in museums of his region. This he may not find very attractive. But if two such institutions exchange objects, there will be so much new to look at and to appreciate. When a visitor finds that people in other parts of India also worship deities similar to his own gods and goddesses, there is bound to be a feeling of greater affinity and thus the museums can play an active part in national integration.

Such exchanges will serve a great cause of learning as they will provide an opportunity to make comparative study of the material, which our museums badly lack otherwise.

The same approach can help us in building a collection of international art objects. It is impossible to buy objects of European Masters, or Sassanian silver in the open market (usually auctions) because of prices which are much higher for these objects than for Indian art objects. For that matter even a painting of living artists like Picasso or Dali, is beyond our means. At the same time, our museum movement has reached a stage when museum-visiting people and students of art history
badly feel the lack of art objects from other countries. All of us will agree that one can have a better appreciation for his own art objects only when he sees objects of other countries. In such circumstances, the only way out is exchange between museums. In fact, the recently gained popularity of Indian art has created a very favourable atmosphere for such international exchanges.

As far as the process involved in such exchanges is concerned, it is quite easy if both the parties are really eager to effect the exchange. First step, of course, will be to circulate photographs of the material which one museum is going to spare for exchange and also to describe the field in which the exchange will be welcomed. When mutually agreed to, in case of museums in India, it will be better if both the parties visit each other and gain firsthand knowledge about the objects they are going to have. In the case of museums abroad we should ask for detailed photographs, complete descriptions, including size and condition, etc. and if possible also get them examined by competent experts in whom we have confidence. The expenses involved in such exchanges, i.e. packing, transportation etc., should be borne by the respective parties.

As a footnote we would like to add that such experimental exchanges initiated by the National Museum with museums in India and abroad have yielded very encouraging results. In India the National Museum has carried out exchanges with the Chandigarh, Baroda, Rajasthan and Madhya Pradesh museums. Many more exchanges are under negotiation. Similarly the Museum has exchanged two South Indian stone sculptures with the Philadelphia Museum of Art, U.S.A., which has given it four sculptures of Medieval Western art in exchange.

One more thing is noteworthy. While negotiating such exchanges the scope of the museums should always be kept in mind. For instance, the site museums should maintain their character and need not enter into such exchanges, though they may contribute to the growth of other museums by offering to them material that they do not require.

Exchanges will certainly be beneficial to regional museums in between themselves or with the National Museums. Let us hope more and more institutions are benefited by such mutually agreed exchanges.
Registration and Documentation—Neglected Aspect of Indian Museums

If the galleries are the face of the museum, then registration is certainly its brain, through which life pulsates in the whole organisation. Not only it keeps the records of the museum objects, it also controls the incoming and the outgoing of objects of loans and gifts; and of the original informations concerning the art objects. But as often happens in the modern world, which is full of showmanship, we wash our face and shine it up with all sorts of aids and in doing so neglect the other parts of the body. The same is true of the museums.

The opening of the National Museum, in its new building, in the year 1960, marks the dawn of a new era in the history of the museum movement in India. Inspired by its example, as also by the contacts with other museums of the world which had developed in the past few years, quite a few museums have "lifted" their faces by rearranging their galleries. Sure, it is a very happy trend, but it also requires developments on certain other fronts which have not been given due attention. It is time that these other long neglected aspects should be given a lift too which will ultimately result in the better organisation of the museum as a whole and in the advancement of learning.

There was a time when museums were supposed to be institutions catering to specialists only, i.e. scholars and research workers. Even now, the educational importance of museums is being much more emphasised and they are put to various educational usage. To be able to do justice to this
function, the museum registration ought to have complete data on each museum object. Simply putting down an accession number does not end or complete the museum record, rather it is the beginning of the process which needs to be kept up with the march of time. Let us now examine the actual procedure involved to achieve perfection in the museum records.

At the time of acquiring the objects for the museum, the authorities should try to collect as much information in regard to the piece as possible. I realise that in many cases it is rather impossible to do so, since the Indian antiquities dealers do not want to divulge this information, but if it is made a condition for the acquisition and if all the museums adhere to it strictly, I am sure things can improve. Of course, the individual names can always be avoided but even knowing the place names makes a lot of difference. In European and American museums, they always have the full data on the previous ownership of an object of European origin and as to how many times it has changed hands and when it was put to auction and all other possible details. This knowledge not only helps in knowing the provenance (which means saving of enormous efforts of going through many books to find a similar object in order to establish the provenance, etc.) and aids future research work but also gives an authenticity to the art object.

Each object of the museum, once it is entered in the Accession Register and numbered in the process, should have an index card or a personal file of its own, on which will be kept the 'previous data' and also the 'future data'. By the future data, I mean whether published or not, if published where and when, how many times reproduced, and the various requests for reproducing it, and so on and so forth. In certain cases, the object is controversial, I mean some scholars think that it came from Central India and belongs to 10th century A.D. but the others feel that it is from Eastern India and belongs to the 9th century A.D. All such divergent opinions should be recorded on this index card. This will keep the museum records up-to-date and will facilitate research work enormously.

As soon as the object has been accessioned, the curators
should start digging out all possible references which should always be fed back to the Registration office. By references I mean, if it is a miniature of the Malwa school, similar to ones that have been published by Anand Coomarswamy or N. C. Mehta, this should be recorded on the card, or similarly if it belongs to a Ragamala set, the major portion of which is in some other museum, that should also be brought on this record and thus all the published or known material should be put together and be revised from time to time.

Further, a record of whether this painting or sculpture has been included in any exhibition held in the museum or in the country or abroad, should also be noted down on the card and if any catalogue was printed on that occasion, its reference should also be brought on the record. Even if a museum object has been used for publicity this fact should be noted down.

This index card or file should also have a small photograph of the object on its back. This saves the unnecessary handling of the art object which can now be seen in this photograph. Since this card also has a negative number, any visiting scholar or a research student can order a print of the photograph for his use, if possible, in the cases of important and famous art objects, more than one view of the object can be photographed and pasted on the card or on an additional card.

In this way, the following information about each and every object should be available in the Registration office:

1. Accession Number (i.e. 66.682)
2. Subject or title (i.e. Reconciliation of lovers)
3. Provenance (i.e. Pahari, Kangra School)
4. Period (i.e. E. 19th Cent. A.D.)
5. Medium (i.e. painting on paper)
6. Negative Number (i.e. 357-66)
7. Mode of acquisition (i.e. Gift of such & such)
8. Description (i.e. Radha leans on her elbow on her bed, lifts her veil and looks at her Sakhi (confidente) standing at the foot of the bed, while Krishna kneels at Radha’s feet. Lamps on either side of
the bed. Beyond the terrace are an ewer and bowl on a low table and another light (lamp). Trees in the background and a crescent moon in the sky. Colours used: red, green, blue, yellow, brown, gold and black. Perhaps illustration to Rasikapriya of Keshav. (i.e. A. K. Coomaraswamy, Rajput Painting. Oxford, 1916, describes this painting which was then in his collection.)

10. Location (i.e. Storage, almirah No. 10, shelf No. 6)

11. Exhibition (i.e. Alger House, Detroit Institute of Arts, 1952)

This is just a suggestion and could be improved upon according to need as the case may be. But such individual information on each object of the museum should help in filing up such general information, such as the total number of objects in each category—sculpture, painting etc.; number of objects loaned to various exhibitions and vice versa; number of museum objects already published; the negative numbers of the photographs etc. and only a museum man can know how helpful these small details of information are for his day-to-day transactions of the museum affairs.

We are sure now that the galleries of some of the major museums of our country are already rearranged, they will pay greater attention to these behind the scene activities which are vital for conducting research work and will further the cause of learning in our society.
BUILDING AND LIGHTING
Planning a Museum Building

Introduction
In India museums existed from earliest times. Many of the Kings were liberal patrons of art and organised "Chitrasalas" and "Vishwakarma Mandirs" which were centres of recreation as well as education and culture. With the change in times the museums, however, became isolated places for the scholars and served the purpose of adding only to the scholarly studies totally neglecting the purpose as centres of education for general public. (Today again the trend is changing and more museums are constructing their buildings for imparting education and for providing facilities for the general public.)

Apart from the historical records of the existence of museums, there is no evidence that the earlier buildings were solely designed to serve the purpose of museums. Mostly palaces, temples and public buildings were used for housing museums.

In India, as well as abroad, the buildings used as museums, had the monumental exteriors, and dark, gloomy, palatial and ornamental interiors, which were in themselves symbols of culture rather than the centres of culture. These characteristics should definitely be avoided in modern museum buildings which should have a friendlier atmosphere and should be inviting visitors to share their hospitality; and moreover, today's buildings should be functional.

Most of the times, the museums have to be housed in existing buildings which were not specially designed for the purpose. But for our purposes, let us assume the ideal conditions, where we have a choice of site and freedom for planning.
Site

Choice of site needs careful consideration. Whenever a site is chosen, first consideration should be of building for present requirements with provisions for future expansions. It should be easily accessible and not too far from the town centres. A site within a park or a garden may be ideal as it gives a good atmosphere and natural setting, but it should not be located in the far interior of such parks or gardens and should be easily accessible from the main roads. The building should have enough open space around it, giving good amount of natural light and ventilation.

General Planning

There is nothing like an ideal plan for museum building, which will serve any type of museum. Every collection will have its own conditions, requirements, purposes and problems. So the museum authorities and architect have to work in close co-operation, to make the building successful. It is easier to plan for the existing collection, rather than planning for the collections to be made in the future. Specific requirements of the collection will influence the structure of the building and the form and size of the exhibition rooms and the related services. A gallery planned for exhibiting miniatures, jewellery or small bronzes, may not be usable for large sculptures and large objects of less meticulous value. Even a picture gallery cannot be designed in such a way as to serve equally well for exhibitions of old paintings and modern ones.

Apart from the considerations of the exhibits, the economic and social aspects of a particular museum at a given site also need consideration. Suppose it is the only public building of the town, it will be a centre for all kinds of cultural activities like theatrical performances, lectures, concerts, exhibitions and meetings. Then the museum may get a good financial support and these amenities will have to be provided on a larger scale than needed only as accessories for museum activities.

Style

Many people believe that the museum building should be imposing, solemn and monumental. This is achieved normally
by resorting to the methods of traditional building and adapting archaic styles. This should not be allowed by any contemporary thinker. Old styles were dependent on old methods and materials of construction. Arches and domes were necessary for roofing as reinforced concrete was not available, but now the use of these, in the age of modern methods of cantileverings and use of reinforced concrete as well as steel, is ridiculous. The style of the building should be representative of its age and should be at least contemporary, if not ultra-modern. The interiors of the exhibition galleries as well as other related rooms should be architecturally pleasing, but should not become a centre of attraction and should be subordinated to the purposes in view.

Functional Areas

The area in the museum building can be divided into two broad categories: (i) Public area, and (ii) Service area.

Public area will include the galleries, an auditorium for meetings, lectures, filmshows and library, while the service area is needed for offices of administration and technical staff, store-rooms, workshops, air-conditioning plants and electrical plants as well as preservation laboratory.

In addition to these, there must be provision for toilets, and cloak rooms for public and staff separately and water-rooms for drinking water which are very essential for India as well as enough corridors and staircases for circulation.

1. Planning of Public Area

If the building site is in a busy locality, it is advisable to set back the entrance considerably from the road by means of trees, flower-beds which will separate it from the traffic and it will also allow space for a public car park. In case a building is located in a park or garden then it is advisable to have it separated by a compound wall for security but the wall should not form a barrier for viewing the building.

The entrance hall should be a large one, to admit big crowds and should lead to the auditorium, library and committee rooms, by means of corridors directly without going through the galleries.
(4) Auditorium

Auditorium should be equipped with a projection room, which is necessary for illustrated lectures as well as films. The stage of the auditorium should be suitable for multipurpose activities, including occasional cultural performances. It should have an ante-room attached to it which may be used by the lecturers or can be used as a green room for cultural performances. If possible, the floor of the auditorium should be on a level and not sloping so that it can be used as a conference hall and can also be used for temporary exhibitions, as in the case of the auditorium of the Jahangir Art Gallery, Bombay which can be considered ideal for a small museum.

(2) Library

Library should have a separate stacking room and a reading area. It should also have a study area set apart from the main reading room. Some of the libraries have photographic collection as well as prints. The library should have enough natural light particularly for reading and study areas.

(3) Enquiry and Sales Counter

(Enquiry office should be located in entrance hall and should give all the required guidance to public.) Publications of a museum like the guide-books, picture post-cards etc. should also be sold at the counter.

(4) Toilet and Cloak Rooms

These should be directly accessible from the entrance hall and should be clean, neat and well-equipped and well-maintained. These should be provided separately for public and staff members, and should be sufficient in number rather than a mere provision.

(5) Staircases and Corridors

These should be wide enough to take a normal crowd. A few labels and notice boards may be displayed in the corridors but these circulation areas should not be crowded with the exhibits or replicas, and photographs of the museum objects. The corridors and staircases should be well-lighted and should
have a pleasant atmosphere. It may be advisable to keep plants in certain corners not obstructing the circulation which can give corridors a pleasant look and can be used as relief areas. The flooring of the corridors should be non-slippery and should absorb noise.

(6) Planning of Galleries

The planning of the galleries is mainly dependent on the type of collection and the lighting needed for the same. The size of the rooms and the height of the ceilings will be determined by the nature and the dimensions of the objects. Large wood-work like Rathas and huge sculptures need a height of 14 to 20 feet, while the bronzes, coins and jewellery displayed in showcases, miniature paintings do not need high galleries. Rooms lit by indirect artificial light are more suitable for paintings and textiles, rather than sun-lit galleries, especially in India, where the sun is strong throughout the year. Long and narrow galleries are practicable for these collections, while for sculptures tall halls with natural lighting are suitable. Open courtyards with natural surroundings are also favoured for sculptures. For ethnographic and folk-museums, big halls with high ceilings are needed. As full size dummies are used to display costumes in showcases, artificially lighted galleries are more suitable for this type of museum.

(a) Walls

The treatment of the walls makes a lot of difference to a gallery. An uncluttered wall space is the most usable space in a gallery. If the windows are above 8 feet height, from the floor level, the wall space below is free for exhibition purposes. No electrical fittings should be located on the walls. Walls also act as backgrounds for free standing exhibits.

Walls should be painted with plastic emulsion or equivalent paints which is easily washable and can be kept clean. When the walls are to be used for nailing or fixing the exhibits, cement plastered walls are not of much use. It is much better to line them up with wood panelling, painted with the wall colour. It is then easier to change the exhibits without spoiling the walls.
Colour of the wall should be lighter than the floor, so that it can reflect light.

(b) Floors

The choice of the flooring for the galleries and corridors and halls of museums is a matter of importance.

Floor should be easy to keep clean and should be easily washable. The flooring should not absorb any dirt or dust. It should be non-slippery. The colour of the floor should be darker than the walls so that it may not reflect light on the exhibits lined along the walls and showcases. For this reason, white marble should never be used on the floor as it would reflect light on walls.

Kotah stone flooring or marble-terrazzo-floorings are the most practical floorings for Indian conditions. These do not absorb dirt, are hard-wearing and easy to keep clean.

(c) Ceilings

These should not be ornamental nor cluttered with electrical fixtures. Lighting fixtures may be hung from the ceiling but the wiring should be in hidden conduits inside the ceiling so that it is not visible. Ceilings should be white or of light colour to reflect as much light as possible.

(d) Ventilation

It is advisable to have natural ventilation for galleries, libraries and other areas also. The normal method of achieving this is through the windows. High windows on one side and doors or lower windows on the other give good cross-ventilation if it suits the layout. For the purpose of preservation of art objects like paintings and manuscripts, it is advisable to have twenty-four hours air-conditioning which can maintain a desired temperature and humidity throughout the year.

(e) Relief-areas

While planning a series of galleries, it must be remembered that it is not possible for visitors to keep up their interest, however attractive the galleries are, if they have to walk through a number of galleries, all the while their atten-
tion focussed on exhibits. If the colour schemes and the mode of presentation vary from one gallery to another, it may give some relief but it is essential to plan a relief-area after two or three galleries, where the visitor's eye may rest with the natural surrounding and get relief after continually looking at some exhibits. A few seats, though not too comfortable, provided in these areas will relax the visitors and they can continue the round with more enthusiasm. These areas could be lobbies overlooking a little garden or a lily-pool or balconies overlooking the landscape.

II. Planning of Services and Service Area

Now for the service area, which is behind the scene of a museum but is equally important as the museum galleries are, at least 40 per cent of the total area should be provided. The preservation laboratories, offices for administration and technical staff of different departments and workshops need office space, stores for reserve collections and other materials as well as working space. Workshops and laboratories need power connections, gas and water connections for using the equipments. All these areas should be well-planned, well-lighted and ventilated and linked up with one another and should be clean and usable, having pleasant atmosphere for efficient work.

There should not be too many entrances and exits for a museum building as these complicate the security measures, but it is advisable to have a separate entry for serving the offices and service areas. Electrical and air-conditioning plants should be accessible from it as well as it should be connected with the store rooms so that goods and art objects can be directly taken to the stores without interfering with the galleries and the circulation of visitors.

These areas, which form the important aspects of modern museum complex, may vary from institution to institution.

CONCLUSION

Architecture means building beautifully. A building is beautiful when it is functional and planned for convenience. Beauty and utility go hand in hand. Planning should be suited
to the purpose the building is to serve and convenient to use. Exteriors should be pleasant to look at, interiors suitable for museum installations and to work in and both should be able to build an atmosphere which will give recreation to the visitors, will refresh their minds and will inspire them in their creative activities.
A Minimum Museum Building
For India
A Programme of Requirements

Introduction
Most of the capitals of the Indian States as well as important cities of India have museums. Some of them are under private trust funds, some under local governments, while some are under the State and the Central Governments. State departments of archaeology and the Central Government’s Archaeological Survey of India have several museums in their charge. Some universities also have museums.

Many of these museums are housed in old buildings of palaces, government offices, residences and monuments which are totally unsuitable for museum purposes. Some museums are housed in new buildings but these are also equally unsuitable for the needs of a modern museum, since housing the collections is not the only purpose of a museum. A museum, whether it is of archaeology, art, science or technology, has to collect objects and specimens, preserve them, exhibit them and interpret them, for the understanding of the particular art or science.

It will take considerable effort and finance to make the existing buildings suitable for the purpose of a museum as it is interpreted in this century. It is also necessary to prevent multiplication of unsuitable buildings which represent the past traditions and therefore it is necessary to lay down adequate standards and norms for a museum building—a minimum museum-building—so that the future museum planners take into consideration the basic functional requirements of a museum.
A museum building which provides the minimum facilities a contemporary museum must have in order to fulfil the basic functions is termed here as a minimum museum-building.

As already stated, there are many museums housed in old palatial buildings with their magnificent collections piled up in enclosures running from floor to ceiling. Sometimes even ceilings are used as exhibit areas. The floors and walls are used for display of the collections and all available spaces are just filled with objects; there is no space left for administrative or educational purposes. Many a time these activities are carried on in a room full of beautiful objects which are thus exposed to excessive light and dust, speeding up their deterioration.

Some of the new buildings also have not taken the functions of a museum into consideration. These buildings contain cut, clean spaces to be used as museum galleries but are designed like a series of classrooms or offices with most of the wall space occupied by doors and windows; a little corner of the building is set off as the curator’s office and there is no provision of space for storage, workshop, and educational activities. These are unsuitable as museum buildings. A minimum museum must have space for all its essential activities of collecting, preserving, exhibiting and interpreting. A building which does not take into consideration these functions does not satisfy the purposes of a museum.

The minimum museum considered here is for a district town in India having a population above 1,00,000. A district town has a community of district and state government officials, officials of the district court, local government and town officers and has educational facilities of the college level. Such towns are normally the business centres of the district and are within easy reach of the sub-divisional towns. So a district town is an appropriate township for a minimum museum.

Programme of Requirements

A museum is considered as one of the media of mass communication. It is the most important medium as it is the only medium which presents the curious, the rare objects in reality, while other media like films, photographs, publications only
show the reproduction of objects, however realistic they may be.

The essential part of a museum is the exhibition gallery where the visitor can see the real object. But this real object has to be presented to the visitor in such a way that it can make an impact on his mind. This cannot be done if a large collection is put on view in a limited space. The visitors need to see a few objects which form part of a sequence, but only a few they can enjoy without feeling tired. So quite a big percentage of the collections have to be kept in storage or study collections which are needed for research and are accessible to scholars and students. Space needed for this is an important planning consideration since everything cannot be put on exhibition. Further, the collection will always grow and a provision has to be made for future expansion.

Only seeing the real object is not always sufficient for intellectual understanding. Visual communication has to be reinforced by means of filmshows, illustrated lectures, discussions and demonstrations. These are all the more necessary for Indian conditions as they are more directly accessible to the people who did not have a chance of a regular education. These activities need sufficient operating spaces.

There can be no museum without its visitor or observer. The convenience of the visitor, his easy access to all the primary areas of communication—the exhibition galleries, the auditorium, the library, the book and post-card counter, the information counter need important consideration while planning the museum building.

For collecting objects, for preserving them so that they do not perish, for installation of exhibits, for operating the educational activities, a backstage unit has to keep on working and a provision of space for it, for efficient functioning of the whole museum, needs serious consideration.

In addition a check-room is needed for coats, umbrellas and parcels for visitors' convenience and for maintaining the security. Social and human requirements of visitors and staff members make rest rooms, tea rooms, lounges and open circulation areas necessary.

Considering these requirements, the following programme represents the minimum needed for a museum:—
Public Areas: Exhibition galleries, library, auditorium, educational activities room, information counter, books and cards counter, check-room, rest rooms, tea rooms and club room.

Private Zone for Internal Housekeeping: Administrative office, offices for curators, study collections room, storage and work room, receiving room, shop, laboratory and photography room, meeting room and mechanical plants room.

Functional Analysis

This analysis is presented here to enlist all the activities carried out in a particular museum area (see also Table I):

I. PUBLIC AREAS—Directly accessible to public

☐ Exhibition Galleries: Permanent exhibitions which are changed very rarely or at long intervals. Temporary or short term exhibitions are only for a short period. Educational exhibitions which are small but illustrated and supplemented.

☐ Library: For reference books, slides, films, photographs, prints and reproductions. Reading rooms for visitors. Study cubicals for scholars and research students.


☐ Information Counter: Information about the organization, activities, special exhibitions etc.

☐ Books and Cards Counter: For sale of museum’s publications and relevant literature.
Check Rooms: For coats and parcels for convenience of visitors as well as for security reasons.

Rest Rooms: Relaxation areas adjoining toilets are beneficial.

Tea Rooms/Cafeteria: For refreshing the tired visitors. These can be developed as meeting places.

Club Room: For groups interested in the museum's activities and for popularizing the museum through membership activities.

II. PRIVATE ZONE—For internal housekeeping

Administrative Offices: Director and his staff. Curators. Security and maintenance staff.

Study Collection: Properly arranged and well documented collections can be made accessible to interested visitors, under supervision if necessary. These collections are used for changing exhibitions and special thematic exhibitions.

Storage and Work Room: Where collections are inspected, documented and kept till they find a permanent place.

Receiving Room: For receiving and dispatching collections and exhibitions. For packing.

Workshop: For preparation of exhibits and their installations.

Laboratory: For preservation treatment of objects, for cleaning and minor repairs.

Photography: Photographing the collections and exhibitions for record purposes.

Meeting Room: For discussing programmes, staff meetings and seminars.

Mechanical Plant Room: For electricity and air-conditioning plants.

Lighting

Lighting of the exhibition galleries is an important factor and influences the design and location of galleries. Science
and technology museums are completely dependent on artificial light as their exhibition can be best seen in this light. Artificial light, or natural light for that matter, does not damage these exhibits. In addition this can also be controlled and can be used suitably. Art museums have to consider the use of this light very carefully for security and preservation of the objects as well as for the interpretation of colours. This will have to be fully reviewed for a particular type of collections of a museum. In general the lighting has to be sufficient for viewing the objects and for normal functions in a gallery. Light sources should not produce glare and should be away from the visitor's eye. Indirect, diffused light for general room lighting and spot lighting for the specific object is normally spread in a museum.

Because of uncertain climatic conditions, better controlled artificial lighting has become a necessity in a museum. But in a tropical country like India where sunlight is abundant, the use of sunlight should not be discarded. It can also be controlled by using various devices like louvers, vertical and horizontal sun-breakers, curtains, etc. and can be maintained without any cost. It is good for psychological reasons and very essential for some objects like sculptures. Whenever daylight can be mixed with artificial light and diffused, it can be considered a good and economic proposition.

**Air-conditioning**

This is very essential for the Indian climate and for welfare of delicate objects. According to financial provision available, air-conditioning should be provided at least for exhibition galleries, study collections, work rooms and laboratory.

In the absence of air-conditioning a provision has to be made for mechanical ventilation or ceiling fans. Provision of shades, overhangs, louvers to protect window openings on external walls, and proper orientation of the building and the galleries also can help a little.

While considering air-conditioning, it is essential to provide it in relation to humidity. The controls for relative humidity should be adjustable and adaptable to specific requirements of museum objects. From the preservation point of view control of relative humidity is more important than control of
temperature. Sometimes different categories of objects need differing relative humidity conditions. Air-conditioning is also a factor which influences the design of museum galleries.

**Floor Areas Needed**

It is recommended by some authorities that for a population of about 100,000 the floor areas needed for a museum should be between 29,000-59,000 sq. ft. The relative proportion of areas allotted for exhibition purposes and other activities, including housekeeping varies considerably from 75 : 25, 60 : 40, 50 : 50 basis. As per functional zoning worked out here, areas of equal size should serve the purpose ideally, as follows (also see Table III):

(1) Public Zone I — Exhibition areas.
(2) Public Zone II — (a) Activities related to the interpreting of collections and gallery exhibits, i.e., auditorium, library, educational activities.
(b) Public amenities.
(3) Private Zone — Activities related to the collection, preservation and housekeeping.

In addition to this, some area will be needed for circulation which may differ according to the different arrangements of these zones in a layout. A sample layout is prepared herewith which is based on the areas as above, on the unit-basis *(See Plan)*. Each unit is a square, in this case 40 ft. × 40 ft.

<table>
<thead>
<tr>
<th>Site Area</th>
<th>— 35 units — 56,000 sq. ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Zone I</td>
<td>— 6 units — 9,600 &quot;</td>
</tr>
<tr>
<td>Public Zone II</td>
<td>— 6 units — 9,600 &quot;</td>
</tr>
<tr>
<td>Private Zone</td>
<td>— 6 units — 9,600 &quot;</td>
</tr>
<tr>
<td>Circulation Area, including open terraces</td>
<td>— 4 units — 6,400 &quot;</td>
</tr>
<tr>
<td>Two entrances</td>
<td>— 2 units — 3,200 &quot;</td>
</tr>
<tr>
<td>Lawns and breathing spaces as open areas</td>
<td>— 11 units — 17,600 &quot;</td>
</tr>
</tbody>
</table>

It is also possible to use this unit plan with the same arrangement for obtaining areas if needed by using a larger unit of 50 ft. × 50 ft. or 60 ft. × 60 ft.
<table>
<thead>
<tr>
<th>Spaces</th>
<th>Collection</th>
<th>Preservation of Collections</th>
<th>Exhibit</th>
<th>Interpreting Collections</th>
<th>Social and Personal Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhibition Galleries</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Library</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Auditorium</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Educational Activities Room</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Books &amp; Cards Counter.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Information Counter</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Check Room</td>
<td></td>
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<td></td>
<td>X</td>
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<tr>
<td>Rest Room</td>
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<td></td>
<td>X</td>
</tr>
<tr>
<td>Tea Room</td>
<td></td>
<td></td>
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<td></td>
<td>X</td>
</tr>
<tr>
<td>Club Room</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Adm. Offices</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Study Collection Area</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Storage &amp; Work Room</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Workshop</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Receiving Room</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laboratory</td>
<td>X</td>
<td></td>
<td>X</td>
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<tr>
<td>Mechanical Services</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meeting Room</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
# Table II

**Requirements of Ceiling Heights, Lighting and Air-conditioning**

<table>
<thead>
<tr>
<th></th>
<th>Ceiling Height</th>
<th>Additional Natural Light</th>
<th>Only Artificial Light</th>
<th>Areas which Need Air-conditioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhibition Galleries</td>
<td>N&amp;H</td>
<td>X</td>
<td>some galleries</td>
<td>X</td>
</tr>
<tr>
<td>Library</td>
<td>N</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Auditorium</td>
<td>H</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Education Activities</td>
<td>N</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rest Room</td>
<td>L</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tea Room</td>
<td>L</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Club Room</td>
<td>L</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative Offices</td>
<td>N</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Study Collections</td>
<td>N</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Storage and Work Rooms</td>
<td>N&amp;H</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Receiving Room</td>
<td>L</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workshop</td>
<td>L</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laboratory</td>
<td>N</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Mechanical Services L</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meeting Room</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Normal Ceiling Height—11’ 0” (N)
High Ceiling Height—16’ 0” (H)
Below Normal Height—8’ 0” to 11’ 0” (L)

Additional natural light. There will be artificial light provided in all the areas, but many of the areas need additional natural light for psychological reasons and functional requirements.
## Table III

**Requirements of Access, Entry and Position in Relation to the Public Entrance**

<table>
<thead>
<tr>
<th></th>
<th>Direct access from public entrance</th>
<th>Position near public entrance</th>
<th>Open to all</th>
<th>Restricted entry</th>
<th>Needs special security</th>
<th>Needs special entrance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public Areas:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exhibition</td>
<td></td>
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<td></td>
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<tr>
<td>Galleries</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Library</td>
<td>X</td>
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<tr>
<td>Auditorium</td>
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<tr>
<td>Educational Activities</td>
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<tr>
<td>Books &amp; Cards</td>
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<tr>
<td>Counter</td>
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<tr>
<td>Information</td>
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<tr>
<td>Counter</td>
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<td>Check Room</td>
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<td>Rest Room</td>
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<td>Tea Room</td>
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<tr>
<td>Club Room</td>
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<td>X</td>
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<tr>
<td><strong>Private Areas:</strong></td>
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<tr>
<td>Administrative Offices</td>
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<tr>
<td>Study Collection</td>
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<td>X</td>
<td></td>
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<tr>
<td>Storage &amp; Work Room</td>
<td></td>
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<tr>
<td>Receiving Room</td>
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<tr>
<td>Workshop</td>
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<tr>
<td>Laboratory</td>
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<tr>
<td>Mechanical Services</td>
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<tr>
<td>Meeting Room</td>
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</tr>
</tbody>
</table>
Lighting of Museum Galleries

There are two schools of thought about museum lighting. Scientists and illuminating engineers favour complete artificial lighting while museologists do not rule out natural light for museum purposes, especially for the materials not affected by daylight. Properly controlled natural light is suitable for presentation of true colour values, yet it is constantly subject to qualitative and quantitative changes, intensity, angle and colour range. Artificial light has the advantage of reaching the most interior places. It is easy to install and control. It does not change with season and weather; yet artificial light alone is fatiguing to the eyes. A visitor would rejoice daylight, dull or dim it may be, after passing through a series of artificially lighted galleries. Natural light, normally received through windows, has a psychological value. Mere presence of a window sets our feelings at rest. It is so natural to look through windows, wherever you are. There is a sort of reassurance to have a window in the gallery, though it may not have any view and may not give any useful light.

Since museum lighting has to serve two purposes—to illuminate the exhibits and to fulfil the physiological and psychological needs—the best solution is to blend both the sources of light to get desirable and useful mixed light.

The amount of light and its quality for galleries have to be considered in relation to contrast, glare, colour effects, colour of light, brightness of object and room lighting. Good contrast of brightness is desirable for satisfactory visibility. Eyes can easily focus on a good contrast, but strong contrast is tiring and confusing. Light coming from one direction gives a sharp
contrast. It is better to have light from both directions with predominance of light from one. The object to be seen should be brightest but not glaring. Light, properly controlled at source, can give diffused light avoiding glare.

Colour tends to change under the influence of light. Blues and greens look brighter in daylight and duller in incandescent light. Sunlight contains a high proportion of these colours.

Colour of light is important whatever the source may be. Windows on north side give cold yet uniform light. This light named north-light was preferred in old days in the museum galleries. Today, direct sunlight diffused by means of diffusing glasses is more favoured.

Artificial light can be produced by lamps and filters in great variety of colours. The colours useful for museums are those of blended character which approximate colour mixtures of natural light. This can be done in a simple way. Gallery can be lighted with indirect lighting by using fluorescent lamps giving approximate colour mixtures and objects on display lighted by mixed daylight by incandescent lamps giving localised floods or spots on the individual objects.

For human ease natural light contributes partially in room-lighting, while for seeing things clearly and in character artificial lighting forms major part of object lighting, as artificial lighting gives highlights and shadows to bring out texture and three dimensional form of objects. Each kind of lighting helps towards the purpose of the other without affecting the basic differences between them. Merely, providing abundance of light does not help. Gallery must be bright and objects must be distinctly visible. Objects must be brighter compared to the background. Bright objects in less bright surroundings is the most desirable condition of lighting and can be achieved when room-lighting and object-lighting are separate and each under full control. Amount of light should be uniform, rather than patchy giving bright and dim areas.

Methods of Natural Lighting: In natural lighting windows are the usual means of letting air and light into the buildings. These windows could be placed in walls in various ways.

Side Lightings: Side lighting is given by windows placed on the side walls of a gallery. These may be at a high level or
normal level, according to the needs. If more wall space is
needed, high windows are used; where the layout forms small
cubicals, normal window level can be maintained. Windows on
one side give unilateral light and windows on two sides give
bilateral lighting. If such galleries are used for paintings or
material and objects hung on the wall, provision can be made
to obtain the correct light on the pictures by using screens of
different plain shapes. This lighting is good for sculptures. In
addition a spot light can be used where necessary for high-
lighting the object. However, windows may cause difficulty
through glare and reflections. Besides, there is a possibility of
contrast between bright openings and dark walls. This can be
avoided with the use of adjustable venetian blinds.

Ribbon Windows : A continuous band of windows above
the eye level on one side of the gallery give very good and
uniform light if placed on the north side. This band should
extend to the ceiling, to avoid dark wall band above the same.
If this is supplemented with artificial lighting to light the wall
below the windows, this is the best method of introducing
natural light:

Sun-Breakers : Window glare can be controlled by the
use of sun-breakers outside the windows. It does not admit
direct sunlight and reflects it by means of its fins. Fins are
normally concrete screens constructed at an angle outside the
windows.

Corner and End Lighting : Big window from floor to
ceiling at the end or corner of the long walls gives good
lighting for wall mounted objects. End window on a short
wall of a rectangular gallery from one end to the other end of
the wall, also gives good light. These lights give enough wall
space for exhibition and sufficient natural light for small
galleries. The glare can be cut off by simple curtains or
adjustable venetian blinds.

Side Lighting at High Level : Window lights at very high
level or side walls can also be used in the manner of clerestory
light. Here, windows are at a very high level. There may be a
false ceiling at the level where the bottom of the window is.
So the windows are not visible in the galleries. This ceiling is
penetrated with metal or wooden grid panels which reflect
and allow the diffused natural light into the galleries cutting its glare. This can easily be combined with artificial lighting by providing fluorescent light above the grid panels giving diffused artificial light.

_Sky Light:_ This method of lighting was used a lot in the past. In this way of lighting more light falls on the floor and on the visitors instead of being directed to the walls where it is needed. The source of the light is visible and gives glare. Use of diffusing glass or louvers can reduce the glare.

_Lantern Light:_ Top of lantern is not glazed. Only sides are glazed. This is better than the previous methods. Height is reduced comparatively. Still considerable height is needed to control reflections.

_Inverted Lantern:_ More advantageous than the others. Direct light falls on the walls and on the objects. Spectators are in shade. Heights are lower. The source of light cannot be seen.

_Methods of Artificial Lighting:_ Artificial lighting is divided in two parts. Direct artificial lighting is mostly used for lighting objects. Room-lighting is left to indirect artificial lighting.

Fluorescent tubes, incandescent lamps, spot lights, false skylights, louvered lights, and louvered ceiling—all these are used for direct lighting.

**Fluorescent Light:** Luminous efficiency of fluorescent lighting is 2 to 5 times that of incandescent lamps. In addition, fluorescent lamps are cool. Daylight fluorescent lamps can be used satisfactorily for galleries and showcases but these should not be used directly for sensitive materials like paintings, textiles etc.

**Spot Light:** The name itself suggests its function. This is best known as projection lamp and is favoured due to its adjustable character and dramatic effect. This is good for sculptures yet should be avoided for paintings and other delicate objects.

**False Skylight:** These are the ones which eliminate traditional roof openings though the effect is the same and can be employed on lower floors even in multi-storey buildings. Here the height of the gallery is lowered down for fixing the skylight.
in the ceiling. For this kind of lighting, frosted glass-panels, introduced in the false ceiling, are lighted by fluorescent or incandescent lamps fixed above them. It may be in the form of one big panel or several small panels as per the requirements. This is useful for general lighting of the gallery.

*Louvered Lights:* These are made in a variety of forms, employing fluorescent and incandescent light. They throw their rays downwards diffusing them by means of louvers.

*Louvered Ceiling:* These are suspended ceilings made of crossed strips of metal or plastic and come in rectangular units. Fitted together these units give an entire overhead grid, through which light from lamps above passes at an angle. This panel lights the room in a semi-indirect way; the objects can be lighted directly from lamps that are projected through the grid.

*Trough Light:* These are surface mounted fixtures, either covered with lenses or glass or open. It has to be tilted to direct the light. For picture galleries the whole rectangle of trough lighting the four walls, is built in by dropping the whole central part of the ceiling to the level of lower rim of troughs. This gives good indirect light.

*Troffer Lights:* These are panel luminaires that are set flush in the ceilings. They are covered by special directive lenses that can place light at an angle over the wall or wherever desired. This may contain separate lamps for general lighting and for spots. The troffers are in box-like units, distributed as per requirements, or in long trough-like units set end to end. With control light rays can be focussed, projected parallel or spread and the beam may be thrown to the place where it is needed.

Indirect artificial light is for general lighting of the galleries. This can be obtained by use of cove-ceiling lighting, suspended fixtures of direct-indirect type and coffer system.

*Cove Lighting:* Coves are ledges concealing light sources. These give uniform light by reflecting the light to ceilings.

*Suspended Fixtures:* These, having shades giving light troughs concealed in their rims, offer many possibilities. Ceiling panels may be rectangular, square, or circular. It can work with incandescent or fluorescent lamps. An important feature of these reflecting coffers is their lateral distribution of light. This type of ceiling has relatively high brightness but has ornamental appearance.
Ventilation For Museums

Air-conditioning is indoor weather-control. Heating is the most urgent in cold regions and is also the oldest part of this process. Museums have been heated in cold weather from the start. Ventilation was undertaken later and its methods were improved with the improvement of heating methods. Overcoming the dryness of heated-air in cold weather came next. Summer cooling of museums and the resultant removal of excess humidity was still a later development. Complete air-conditioning with winter heating, summer cooling and year-round control of humidity as well as cleaning of the air before it is moved through the building is what people have come to expect in urban public buildings. The museums of the Western countries are, therefore, planned accordingly.

In India most of the public buildings do not have any air-conditioning. Most they are designed for natural ventilation through window and door openings and sometimes they are provided with ceiling-fans and/or exhaust-fans for artificial ventilation. But complete air-conditioning is less in use even today due to the heavy expenses involved.

Natural Ventilation

Most of the buildings have natural ventilation to some extent. Many large museums that were built in past decades still put faith in natural air-drift under wind pressure and in the self-ventilating capacities of open space; but such apparently free benefits do not protect museum collections from dryness or moisture. Natural ventilation makes some buildings habitable, but it cannot fully relieve discomfort from stuffiness and from heat in the respective seasons.
Artificial Ventilation

Mechanical ventilation or supply and removal of air by mechanical means is associated for the most part with heating and other conditioning, although some forced movement of air is independent of this, and can be very well used in the museum galleries.

Exhaust Fans

These commonly operate as independent units. They may be installed for example in attics to pull outside air through spaces above skylights. Inlets are provided at the lower level and there are outlets in ceiling. Sometimes even duct carry the air from openings in the ceilings to the extraction fan. These fans are usually driven by electric motors. Some museums thus force filtered air through their attics in summer at rates upto several hundred-thousand cubic feet a minute. Some little museums with no other cooling provisions draw air through the openings and blow it out by means of attic fans. The fan most suitable for duct work is the centrifugal fan which for ventilation purpose is generally made with multivious blades. These are of special advantage in museums, because they can be placed at a distance from rooms in which silence is wanted. As a measure of fire protection, there should be ready means of stopping fans.

Unit ventilators which are factory built assemblies, can be used but for big buildings they are more costly.

Air-conditioning is the best for museums. There are two ultimate objectives of air-conditioning in a museum. Comfort of visitors and employees and conservation of collections. Both ends are of great and ever growing importance. Everywhere good seasons alternate with bad seasons and vice versa, in which case air-conditioning for comfort becomes essential. Air-conditioning for conservation is a well-established fact and lengthens life of the exhibits.

Possibilities of harm to museum materials are many. Besides adverse temperature and humidity conditions, common causes of deterioration are the effect of light, dust, air pollution, and to some extent impurities in materials themselves. Adequate air-conditioning retards or eliminates shrinking, bulging,
warping and cracking that may come from temperature and humidity changes, while it also stands in the way of such swift harm as actual condensation might cause. Further, it keeps out dust that might otherwise cause damage and accelerate discolouration. It prevents substances from brittling, decaying and softening and lengthens the life of adhesives. It protects against damage due to sulphur-dioxide, and minimizes tarnishing of silver and surface changes in iron, copper and other metals.

In short, any museum, with important collections to preserve, must either meet the cost of air-conditioning or neglect a duty towards its collections.
MUSEUM EXHIBITIONS
AND
DISPLAY TECHNIQUES
Planning A Museum Gallery

Generally speaking few exhibits in a museum encourage the viewer to think for himself and still fewer give him the material to draw his own conclusions or to stimulate him to evaluate his experience. The probable reasons may be the poor way of presentation, inadequate space to isolate objects, defective building, ineffective layout and poor lighting. All these if combined make museum a most undesirable place.

In India even now, museums like to display all their riches; walls and showcases are filled to the point of overflowing; gilded and decorative frames and ornamentation around the exhibits and the places of the exhibition lend the character of a pompous show to the museum gallery. That may be the reason why a museum in India is still called "Ajaib-Ghar", the house of curios.

In the over-flowing galleries in the old days in India, as in the West, it was left to visitors to find their own way amidst the wealth of art objects and materials. But it is surprising to know that the visitor did find his way, because in those days only people who had good education and some cultural background had the monopoly of museum visiting and such people, due to their education and cultural background, did know how to find their way through, choosing and comparing the exhibits which fascinated them. The professional artists, art historians, and scientists, of course, found here an immeasurable wealth of materials. It was one world which a museum in 18-19th century was and people too could recognise it as a whole museum. It was possible to collect and present everything, objects of arts and science, things of past and present, curios from the country itself and from regions beyond its
frontiers, in a single small building, without any systematic efforts for dissemination of knowledge. What mattered most was the collective and quantitative richness of collections.

So a typical layout, a particular way of presentation, suitable but uniform lighting, could not have worked for such galleries full of diversified objects and subjects.

This one world, which the old museum represented in the past, has fallen apart now and the contents are split up even in India. They are now cared for by a diversity of specialists and seen by a completely different class of people, from laymen to scholars, from villagers to city-dwellers, from students to experts who have different interests and tastes. Today the museums are named distinctively as of arts, science, natural history, archaeology and so on. And for these specialised museums, it is easier to plan the galleries for systematic presentation of museum objects.

The architecture of the museum buildings in old days, as can be seen from existing palatial museum buildings, had no place for simplicity. These palatial structures were too typical monuments inwardly and outwardly. They were symbols of culture rather than buildings to serve the community. They used to inspire an awe in the minds of visitors rather than enthusiasm or spiritual enrichment. These characteristics were obstructive in popularising museums and in letting the people use these places for relaxation. The museum building should have a friendlier appearance and atmosphere to invite visitors to share their hospitality. Visitors should feel free and inspired to spend their time as much as they can in the galleries rather than rushing through them. Well lighted and well presented objects set in a pleasant atmosphere, are able to capture the mind of visitors and induce them to think about their background, history and sequences in the story they tell.

To exhibit means to choose, to display, to present and to impart information, in a temporary or permanent exhibition. An exhibit (an art object or a scientific specimen) is meant to represent a certain period, and a link in the development of man’s culture, civilisation in the history of the world. It is meant to stimulate him, influence him and compel him to think about it. For this the gallery layout, the lighting, the show-
cases, the sequence and method of presentation must be effective. It can be achieved through planning only. It cannot just be left to a chance. A plan of gallery must underlie solution of a good layout and must satisfy aesthetic, physiological, and psychological requirements.

High artistic quality, adequate place to isolate the object, appropriate backgrounds, harmonious colour schemes, and harmony in the objects presented together, are the qualities expected of museum galleries today.

**Lighting**

Lighting controls the layout of a museum gallery. Gallery lighting should serve two purposes, to highlight objects on display by means of artificial light and to fulfil the physiological and psychological functions by providing some natural light. The best solution is to blend both the sources of light to get desirable and useful mixed light for day and artificial light for nights. The amount of light and its quality for galleries has to be considered in relation to contrast, glare, colour effects, colour of light, brightness of object and room lighting. The object to be seen should be brightest but not glaring. Properly controlled light at source can give diffused light and avoids glare.

**Organising the Space**

Size of the exhibition in the given space always needs a careful planning. It is easier to design a building for its requirements, but most of the museums do not have a chance to do so. In most of the cases they get old buildings to accommodate the collections making the task of the designer doubly difficult.

Sometimes a big gallery is available and collection to be arranged in it is also large. General tendency for arranging this will be to show lots of objects. But this has to be avoided. Only the objects representing the style or period should be shown rather than overcrowding the space by showing each and every object of the period. If the gallery is small and has inadequate space to show necessary and relevant objects, it will still be best to choose the important and representative
objects of high aesthetic merit from the collection and present them in such a way that no link in the sequence is missing. Extra information can be supplemented by illustrated and informative booklets, as well as adequate labelling.

Space has to be suitably used for circulation as well as for exhibitions. Circulation of visitors around the art-objects or around the showcases containing exhibits, is as important as showing the exhibits. Making a model of proposed layout of a gallery is an excellent way of visualising space in the gallery. It is very difficult to eliminate art-objects after forming a sequence. So the layout must be thought of well in advance and objects chosen accordingly.

The object of special interest or a masterpiece needs a particular thought when this is placed in the gallery. It has to be isolated and should have space around it because guide lecturers invariably take their big or small groups to such important object and these groups should not obstruct viewing of other objects in the galleries and there should be space for the passers-by. While organising the space, scale of the objects in relation to the gallery height must be considered. For example, monumental sculptures cannot be shown or properly seen in low galleries. Actually for such huge sculptures, sculpture-courtyards are very much favoured because there the ceilings do not restrict the view.

Similarly a small object or a group of small objects of decorative arts like ivories, shown in high galleries and large showcases, will also be lost. The best way will be to lower down the ceiling in the areas where very small objects are to be exhibited. This can be done by putting false ceiling only for the particular area. Small showcases or window showcases, where each of these small objects has its own place according to its scale and is not lost in the large size of the showcase, are also suitable for small objects.

However well-arranged a gallery may be, it may not strike a proper note in the minds of visitors if they miss the purpose behind it. So the purpose of the gallery must be explained fully. This can be done by means of informative introductory labels, maps, charts etc. The galleries must be clearly named and designated. The divisions of the gallery, if used for
different collections, should be designated carefully. While
designing these instructive boards care should be taken not to
clutter gallery entrances with all types of instructions and direc-
tions. The design of these should be inconspicuous and if pos-
sible the instructions should be grouped together at one place.

Display Furniture and Presentation of Objects

All art objects cannot be presented in one and the same
manner. Some of them need place on the wall, some have to be
seen from all sides, others need protection from weather as
well as from visitors. To accommodate such variety of objects,
pedestals, low-platforms with or without glass-cases, wall-cases,
島land-cases, wall-shelves, and table-cases are needed. Designs
of all these should be in a harmony and well suited to the
purpose. These should be simple and easy to handle and easy
to maintain. In order to avoid the dull repetitions, colour-
schemes should be changed from gallery to gallery. Changing
the designs of props used inside the showcases and elsewhere
in galleries relieves the monotony and lessens museum fatigue
too.

Movable screens and partitions are helpful in creating
additional wall space and small intimate enclosures. The design
of these should be carefully made so as not to be repeated
many a time. It should be adaptable to various ways of
presentation.

Backgrounds play a very important part in presentation of
art objects. Colour-scheme and texture of the background
should be selected keeping in mind the richness, texture and
form of objects. Backgrounds should be able to bring out the
characteristics of the objects shown against them. Object
should be prominent against the background and not the
background itself.

A certain type of presentation for a particular object may
not suit all kinds of objects. The playful treatment given to
the presentation of costumes cannot be given to the presenta-
tion of manuscripts or architectural wood-work. An ornamen-
tal frame for a map will look totally out of place shown together
with a simple showcase having square cut edges and modern
look. Dramatic objects like masks and folk-arts need dramatic
lighting but very simple and neutral backgrounds to bring out colourful effect of these objects. Rich objects like exquisite jewellery, jades, need a formal but rich background and uniform lighting.

While showing the art objects in a gallery, levels of the bases supporting the objects need a consideration. All objects cannot be shown at eye-level, as that will create monotony. Either in showcase or outside, the levels of objects should be changed in relation to the available viewing distance, by using blocks, shelves and by changing height of the pedestals. In short, a beautiful composition can be obtained by changing the levels and yet each object has its own level and place.

Relief Areas

There should not be too many galleries leading from one to the other. After two or three galleries a relief area should be planned inside or outside the gallery. Here the visitors should be able to enjoy nature and relieve their tired eyes, looking through the picture windows and courtyards. This will relieve them of the museum fatigue and they will enter the next gallery with fresh enthusiasm.

A museum cannot exist without its visitors. The beautiful objects will have their esteemed place in proper surroundings and will enrich the minds of visitors and compel them to visit the museums again and again.
Principles Of Display For Presentation Of Museum Objects

Principles of display which are applicable only to the presentation of museum objects are discussed here as display is a term very widely used. Today's museums are no longer those of the past. They differ in conceptions and functions. In past, museums mainly used to collect objects, preserve them, study them and add to the scholarly studies and knowledge in general at high level. But today's museums aim at education at all levels, as well as adding to the aesthetic enjoyment of general public. So, the presentation of the museum objects which is considered the language of museums, has to be very effective and educative.

Function and Definition

When visitors enter a museum gallery, they may not have much idea about the objects they are going to see, and the atmosphere surrounding such objects. Instead of visitors finding the objects the art objects should try to capture the visitors. Objects presented in a gallery should on their own merits appeal to the eyes of visitors and inspire the visitor to think about them, their sequence in the story they tell, and the meaning behind them. The surroundings should be complimentary to the object but not overpowering and should stimulate the thinking of visitors, enabling them to link up the past with the present. For this, the objects in the display must be able to speak for themselves and should act as representatives of a particular phase, or specific era in the history of civilization.

The language of objects is a language of symbols and signs. This language can be termed as ‘display’. The word ‘display’
is many a times opposed to for museum presentation as it is a favorite of commercial activities. But 'display' in itself need not be always commercial because it is neither ornamentation nor decoration; it is a graphic in three dimensions. Display is a calculated application of aesthetics to visual appeal and appreciation. It is a method of thinking and working in inconspicuous ways, that is, working through symbols and signs. This language of symbols is prompted by the activity of indication. Indication is the main reason behind the display scene. In all its facets, indication has some bearing on the performance of the object; indicate means betoken, signify, discover, reveal, disclose, present, exhibit, show, designate, specify, notify, impress, inform, symbolise etc. This is what a museum object is expected to do.

How does one study this symbolic language of objects? Probably in the same way one studies drawing. While studying drawing, one gets conscious of the counterplay of straight and curved lines; cubic and globular forms; light and dark tones; bright and dull colours. This lesson in drawing can be easily applied to display or presentation.

Principles

The arrangements of objects in space or composition in three dimensions, lighting, texture, colour and scale are the main principles guiding presentation in museums.

1. Composition

The arrangement or layout of the objects is the strength of display. If this is not effective and fails to have visual appeal, the purpose of display is defeated. The arrangement should be able to attract and hold the attention of visitors.

Every object has a size, shape, texture, colour and tone, which is affected by the size, shape, texture, colour and tone of other objects as well as by the showcase in the particular display. The physical arrangement of all in relation to each other and to the environment influences the way the eye reads a showcase picture.) It should accentuate, emphasize and focus attention of viewers. But while doing this, one must remember that the objects are more important than the surroundings, and there-
fore, these must be in full view, with characteristic features prominently disposed and their nature should neither be distorted nor perverted.

2. Lighting

The texture, shape, size and colour cannot be considered apart from the influence of light. Light brings out the character of objects if used in an effective way. It brightens the object, sculptures its form and builds an atmosphere around the object.

Lighting should be sufficient so that the objects are visible but light should not be glaring. Source of light should not be visible to the visitor’s eye directly as it gives glare. Indirect and reflected light gives good subdued light for general lighting. In a showcase, however, the objects must be brighter than their surroundings.

3. Texture

Texture of the museum-object should be brought out by the texture of the background. So, the interplay of following textures—rough and smooth, light and heavy, shiny and dull, clear and opaque, and loose and tight is effective. Textures of the background contribute to accentuate the characteristics of the objects by way of contrast and this can be achieved by using various kinds of textiles. Jewellery is always shown on the background of soft silks and velvets. The softness of the background accentuates the hardness of gold and matches the richness of metal. Textured textiles act as becoming backgrounds for sculptures, wood work, as softness of textile diverts the mind from soft textile to hard surface of wood and stone. Smooth glassware goes very well with rough textures which bring out the smoothness of glass. Smooth background like polished wood is very becoming for delicate and soft textiles.

4. Colour

Colour is another eye appealing factor. The background colour should compliment and enhance the colour and beauty of the objects on display by matching and contrasting the colours.
The colour of utilitarian devices like pedestals, platforms, fixtures should be identical with that of the background in order to lose them against the same and thus making the object visible. If the colours of these props can be swallowed up, they don’t appear important.

Besides the visual effect, colours can also be used for illusions of the space and distance. For example —

(i) Blue & sheds of blue recede in the background.
(ii) Red & sheds of red and yellow advance in space.
(iii) Neutral colours like grey, buff, etc., stay in positions. In addition, light colours reflect light and give brighter appearance, while dark colours need extra lighting as they absorb light.

Moreover, red and yellow attract attention. Blues and greens are soothing to eyes. Light colours recede and dark colours advance.

5. Scale

Scale of the object in relation with the space in which it is shown also needs consideration. A small object in a big showcase or in a large gallery will get lost, however beautiful it is. It has to be encased and shown in a background matching its scale. Similarly large sculptures in a crowded gallery lose their scale and therefore need isolation as well as space around them.

CONCLUSION

The purpose to be achieved in display is a pleasant atmosphere for both: objects and visitors. The viewers should be inspired to think about objects. This mostly depends on the artistic skill of the individual designer who undertakes such works of presentation. A principle has to be applied to the circumstances rather than being followed rigidly; only then the display can be successful.
Exhibition Design—Basic Data

One of the most important functions of a museum is to exhibit its collections. If the exhibition has an aesthetic appeal, it will leave a good impression on the minds of the visitors and would induce them to take more interest in the collections and add to their knowledge.

The purpose of a museum is intellectual relaxation as well as dissemination of knowledge. It can be carried out through a number of media of mass communication like films, television, radio, photographs and publications. However, none of these have the appeal of a museum exhibit for the simple reason that they are using only a replica of the original while the museum offers original objects. But then even the original objects by themselves may not be effective unless presented properly. The way the objects are presented in a museum gallery makes the real difference.

The first necessity of a museum exhibition is the 'selection', that is, to sort out the objects and select the outstanding ones for their importance in the art, history and for the particular characteristics or evolutionary principles they depict. One object alone cannot make the story, though a lot of stories can be written about the 'object'. In a museum display the objects should be like the characters in a story, each one having its own characteristic features or importance. It should be a link in the story even if it is a masterpiece. The second prerequisite is 'arrangement'. Arrangement of these selected objects will be the basis of a display and the story told through the arrangement is the theme of an exhibit. For example, an exhibition can be planned showing the 'migration of birds' from one part of the country to another. This should even-
ually show the habits of a particular type of bird, the environment it needs, its eating habits, the particular physical requirements for its protection and the climate needed for its survival. The bird history, thus, can be presented through these themes. It will also be educative in knowing the climatic conditions, the plants, shrubbery of a particular region. Evolution of a particular physical type or of a tribal craft or developments in arts can also be depicted in the same manner.

After the selection is made and the arrangement of selection is decided, then one is confronted with the actual display in a gallery. What is display?

Display is a graphic in three dimensions. It creates pleasurable atmosphere. It is calculated application of aesthetics to visual appreciation. An object sorted out from a collection, displayed in a composition should set a process of thinking. Display is also a language of symbols—for example a bird in its natural surrounding tells us the story of nature, wonders of nature and thus symbolically represents nature. The arrangement of objects in space, sculptured by light, is the strength of display. So the first consideration in the display arrangement is the space. Space is all the area within the enclosure bounded by the length, width and the height. Planning of an exhibition area needs spatial organisation which is three-dimensional in character and includes the design of the shapes, the textures and the colours within the space in relation to the whole space. In order to prepare a gallery layout, its space should be analysed in terms of space, lighting, architectural features, entrance and exit spaces.

While considering the furnishing of gallery for an exhibition, first the total space must be studied in the following way:

1. The floor space and the relative amount of area each piece of gallery furniture would occupy.

2. Each wall space with its relative amount of area that various pieces of furniture occupy when placed against the wall plus any architectural features, such as windows, doors etc.

3. The ceiling space with its divisions with beams or lighting fixtures.

4. The smaller areas of spaces in the showcases, panels
or such display furniture. These may be two-dimensional or three-dimensional places.

It may be better to start with the study as per the diagram of a simple two-dimensional space—a panel for painting or photographs. The enclosure has length and width (Fig. No. 1). Another shape within the enclosure shows inner space and space surrounding the inner shape (Fig. No. 2). When more shapes are added—tensions are created—eyes move from one shape to another in order of their importance (Fig. No. 3). The closer grouping emphasizes the shapes in relation to another (Fig. No. 4). The same shapes grouped with bigger space around them emphasize the space (Fig. No. 4). Too much space around the shape makes the space disappear. Movement is created by changing the directions of the shapes (Fig. No. 5). Contrast in tonal values intensifies the movement (Fig. No. 6).

The problems of placement of shapes in space involve all the principles of design, more specifically the problem of proportion, when the third dimension, that of depth, is added to the design of space.

Now let us discuss the principles of design one by one:

1. Proportion: This is a pleasing relationship of different shapes or specimens in relation to the total space. The scale of the specimens in relation to the ceiling height will be a deciding factor for considering the sizes of showcases. In a gallery with high ceiling, pre-historic stone implements displayed on the wall will be totally lost. If they are gathered in a small group and shown in the showcase of suitable size, they will invite attention.

2. Balance: As the variation of sizes and shapes balances a two-dimensional picture composition, in the same way an exhibition should be balanced with variations in types of showcases, scales of objects, techniques of display and lighting. For example, it is monotonous to enter a gallery full of only dioramas but if a diorama is introduced as a variation, it is much enjoyable and welcome.

3. Emphasis: In a composition of a showcase, the emphasis should be on the specimens or objects on display. A background texture, colour or material should emphasize the colour, texture, form of the exhibits. For example, the colour-
ful costumes of the tribals have an emphasis when their colours are brought out by use of a contrasting black colour in the background. A powerful spot-light on a selected object or a colour in a showcase can also emphasize the composition and attract attention.

4. Rhythm: There must be a movement, rhythm in the layout of a gallery or a showcase. A visitor should not feel lost but should be captured when he enters a gallery. All showcases or arrangements should be inviting and thus keep the visitor moving. An arrangement of a showcase should have a rhythm created by the variety of sizes and shapes of specimens.

Equipped with the knowledge of these design principles, it is easy to proceed with the actual design of galleries and showcases, if one remembers that the principles are to be applied, rather than to be followed rigidly.

Cleanliness, orderliness, proper labelling (not in outsize proportions), effective lighting, suitable background, clever use of dioramas with variations, thematic approach to exhibitions and showing less but more attractively should bring success to any museum exhibition.
Changing Role of the Museums

Museums all over the world are going through a change for the last century. Today it no longer only collects and preserves but also carries out the functions of exhibiting and interpreting these collections. In fact, public exhibitions and interpretation of the collections have become the most important functions. The museum has to be an integral part of the public education system. Some scholars consider that the museum is a part of the formal education system, though museum education has fundamental differences with the traditional school system. Museums depend on their “objects” for education while the traditional school uses “word” as the medium of education.

However, in spite of the difference of the medium of education, the museums are educational. In fact, education has become one of the most important functions of the museum in India also. Today, the museum wants to be useful to the community, to the society and to the world, and so it is getting involved in numerous activities but still ‘education’ is on the top of the list of its functions. It will not be considered an exaggeration to say that no museum can be considered ‘the museum’ unless it conducts educational programmes.

The variety of educational activities have changed the museum from the mausoleum to the live institution full of bright and flashing lights, gay laughter and music.
Exhibition as a Medium of Education

The emphasis on interpretation as well as on exhibition has brought over a change in the layout of the gallery, in the exhibition techniques and in the selection of the exhibits presented in the gallery. Crowding of the gallery is reduced from each and every object collected, to the chosen few—important, artistic and impressive exhibits, thus allowing the visitor to carry better, deeper and a more comprehensive image of what he has really seen in the museum.

Exhibition is the most important medium of museum-education because it utilises the original objects for teaching while all other methods utilise only a replica of the object by way of a photograph or reproduction. There is no doubt that objects seen in photographs and reproductions increase the fascination for seeing the real objects.

Need for Separate Museum for Children

Today when our gallery exhibitions are using modern techniques of segregation, proper lighting and colourful atmosphere, and are thus becoming more attractive and educative, the question arises as to why do we need separate children's corner in museums or for that matter separate children's museums?

Some people might even argue that the children hardly need any special museum. Their natural skill of admiring colour, form and shape makes them appreciate the objects they see around. Children are more capable of mastering the language of objects, relationships and patterns of non-verbal display, while the adult, especially the educated adult, is so dependent on the information that he will regard the label as a more important source of data rather than the object itself. But in spite of the capability of children of understanding or mastering the language of objects, children feel frustrated when they are confronted with static, untouchable display which they cannot manipulate, touch or explore. The children should be able to participate in the display and to find out their own answers to the questions posed by the objects. It is necessary that they are able to conduct their own explorations and to work with the materials in an intimate relationship, to manipulate the
exhibits and to create new structures.

It is obvious that these facilities for participation are not available in the usual galleries even though modern exhibition techniques are utilised for the gallery-exhibitions. Thus the normal galleries are inadequate to meet children's demand, hence the need for establishing a special children's corner or having a separate children's museum.

One might question why the need for special museum galleries for children was not felt so much in the past? Probably this was due to the fact that the traditional museum catered to only a certain class of visitors and it was mainly the scholarly adult who visited the museum. Today, the museum is thrown open to all and it welcomes adults and children, scholars and students, politicians as well as common visitors. Under such circumstances, it becomes difficult for a museum to cater for all tastes separately and individually. It has to arrange exhibitions of its collections in a way to appeal the majority of its visitors. But for the citizens of tomorrow something special is needed. This is particularly the case of child visitors which the museum authorities are anxious to take care of. Because they have realised that education is the most important function of a museum and children’s education for making them art-loving and science-loving and worthy citizens is a "must" for the society.

Exhibition Techniques

While discussing the 'why' and 'what for' of the children's museum, it has already been realised that children do not enjoy the exhibitions however well-lighted and colourful unless they are able to participate in the exhibition. There are several ways of developing this participation.

In the first instance we would like to give examples of numerous exhibitions which welcome even adult participation. These are now arranged all over the country, especially for popularising handicrafts, handlooms, folk-arts and tribal arts. We have particularly noticed that in the recent years, such exhibitions have developed 'open displays' where the exhibits are neither under nor behind the glass but they are clearly visible without any obstruction or reflection of transpa-
rent glass and many times they are even accessible and touchable. It is believed that by inviting the visitors to handle the exhibits, the temptation of possessing the object increases, and so the sale also increases.

In many exhibitions, even if the objects are not sold, the objects are displayed on open platforms around which visitors can move and see the objects from all the sides. This approach to exhibitions gives more flexibility in planning the layouts of the galleries and make it more intriguing.

**Gallery Layout for the Children's Museum**

The galleries should be laid out in such a way that the whole gallery is not visible from the door. Let the children discover objects one after the other, or one group at a time which can hold their attention and can increase the concentration. The layout should be self-leading so the children move from one group to another. This can be achieved by means of concentrating the display areas in the centre of the room and by using islands, platforms, and showcases of various and interesting shapes. Movement around these can be arranged by zigzag or winding accesses which children like to explore.

**Flexible Presentation**

Objects in a showcase can be arranged in such a way that the exhibit could be handled and arranged by the children but without disrupting the main arrangement. This can be done by mounting the exhibits on the suitable pedestals or bases. Objects could be fixed on the base and should be well secured to the base. This will allow children to lift up the objects together with its base and then they can rearrange those objects in a composition pleasing to them. This serves two objectives at a time. The children have a satisfaction of being intimate with the object as they have touched it, felt it and they had the opportunity of manipulating the exhibits and at the same time they had fun and amusement. In this way the children will try to know and remember the object and would be able to learn the characteristics of the object quickly and firmly which they can remember for a long time. This playful demonstration can be made educative if he can be given information about
the size, shape, colour and the meaning of the object, its historical significance through a recorded tape while he is playing with the object or even by a guide in charge of the gallery or the teacher.

Participation by Discovery and Action

It is possible to arouse the curiosity of children by letting them discover the gallery and its exhibits. This can be achieved in several ways.

Small showcases can be installed in the wall with openable front which will bear the name of the objects. When the child opens the door, the objects, well-lighted in the showcase, will be visible and the inside of the door can be utilised for labelling matter and relevant but brief information about the objects. Such showcases can be utilised for objects which are delicate and cannot stand constant handling. If necessary, these can also be covered with glass in order to safeguard the objects. If action or sound can be introduced in such showcases, it will be even more interesting. Since the discovery of the objects by opening the showcase doors is made by the child, he has the satisfaction of finding out something and this gives him the pleasure of participation. If it is possible to feed him with the relevant information when the showcase is opened, either by means of a recorded tape or by a guide, it will add to his pleasure and understanding.

There are many other devices like the push-buttons, answering the various queries by lighting the answers or starting a tape-recorder or by lighting the picture or a transparency for relevant information. These make the child feel that he himself has found the answer to the questions.

Many a time museums do not have resources and many electronic devices are not available in our country but certainly it is possible to use simple devices like opening the doors, turning panels upside down and lighting switches etc.

Extension Activity

Learning by actual doing.

It is necessary for children's museum to have workshops or studios where the child can carry out experiments for learning
the colours, shapes and materials. This is especially necessary for art museums. Learning by actually making the object is the most guaranteed way of learning.

First the child sees the object in the book or in a slide, then he comes to the museum to see the real object; he can see it closely; possibly he can see, touch and feel the material of which the object is made and know whether it is hard or soft material, rough or smooth; if he can't touch the object, may be he can handle its exact replica. To learn the characteristics of the object, the next step is to sketch the object, and learn its proportions.

If he can make a replica of the object or model the object in some material, like clay or plasticine, it is the surest way of learning about the object permanently.

In fact, museum educators recognised the inadequacies of the traditional museum as an 'experimental' or 'discovery learning' environment for children. Hence the museums for children are developing as independent type of museums where the child is allowed to work with the museum materials so as to realise the greatest possible returns.
Types Of Exhibitions

Exhibitions assumed greater importance in museums from the time they became a public institution and started catering to the demands of society. Since museum is meant for all, students and scholars, adults and children, educated as well as uneducated, it is obvious that only the permanent galleries which exhibit the representative collections are not enough and should be supplemented by exhibitions of different types as mentioned below:

1. Permanent gallery exhibitions.
2. Temporary or periodic exhibitions.
3. Special or thematic exhibitions.
4. Educational exhibitions.
5. Circulating exhibitions.

1. Permanent Gallery Exhibitions

Permanent galleries can be considered key galleries which speak for the richness of a particular museum collection. In these the best representatives of the collections are exhibited to satisfy the aesthetic urge of the visitors and also to fulfil their desire of seeing the rare, the unique and the beautiful objects. Though the permanent galleries must show representative collection, it is not necessary to fill these with examples of each and every type of objects and make them crowded. These galleries should have only the best and very important specimens properly lighted and attractively presented to capture the minds of the visitors.

Whenever the museum acquires more objects of a particular period or school of art, they can be installed by reorganising the gallery without changing its original classification. The
gallery devoted to “Indus Valley Culture” or “the story of Indian Miniatures” can still represent the same though some or all of the objects can be replaced with the newly acquired objects belonging to the same period.

2. Temporary or Periodic Exhibitions

These exhibitions are not permanent exhibitions but are organised in order to bring out the reserve collection of the museum so that visitors will have a chance to see the collection which is not normally on view. As the name itself suggests, such exhibitions are for a short time of few months or even a few weeks. These give an opportunity to visitors to see many examples of the same period or the same school of art at a time and allow them to make a comparative study. For example, an exhibition can be organised to show “Rajasthani Miniatures” or “Kashmir Shawls” or “Folk Arts of India”. Such exhibitions will not only interest scholars but will also act as inducement to general visitors to visit the museum again and again for gaining knowledge about the particular objects of their interest. In a vast country like India, such exhibitions have added importance of integrating people of different states by providing them knowledge about each other’s regional traditions.

These exhibitions are of great importance even to museum staff as research of the particular collection can be published at the time of such exhibitions in the form of catalogue, guidebook or at least informative folders. Inventory and documentation is made up-to-date for organising such exhibitions. This also gives an opportunity to curators for scrutinising the collection and if it is lacking in some spheres, that can be filled by acquisitions.

3. Special Thematic Exhibitions

These can be considered as an extension to the periodic exhibitions. It is not necessary to limit the periodic exhibitions only to a particular type or school of a particular collection and some of these can be planned as thematic exhibitions which are meant for the comparative study on a wider scale for bringing together objects of different schools and periods depicting a
particular theme. This would enlighten public in knowing how a particular art or festival or a deity has been represented, survived or changed through different arts or different regions or different media or through the development of sciences.

Such exhibitions are of great interest not only to scholars but also to the general public. "Krishna Legend" depicted in sculptures, paintings or manuscripts (fig. 40) is equally interesting as "Freedom from Hunger" showing different ways and means of collecting, acquiring or producing food by man through the ages. Such thematic exhibitions inspire artists, craftsmen and scientists to study, modify and apply old methods of life and living to further the cause of mankind.

4. Educational Exhibitions

There is no doubt that the museum galleries as well as other exhibitions add to the learning of visitors and enhance their knowledge. But in spite of the fact that these exhibitions add to the knowledge they do not fall into the category of "educational" as understood in the field of museums.

The educational exhibitions are planned with the purpose of educating the visitors by "all means", and use all the aids like illustrations, charts, photographs, replicas which normally cannot be used in other types of exhibitions in a museum, for fear of overpowering and thus neglecting the actual objects or specimens. In other words, objects directly impress, inspire or communicate with the visitors in museums' permanent galleries or in special or periodic exhibitions but in educational exhibitions other aids can be used in order to give full details of the objects, about the objects, about the techniques used in creating, making or producing the particular objects.

In short, the educational exhibition can be considered as demonstrative or illustrative exhibition where the sole purpose is to give information, making use of all aids, so that the particular techniques of creating the object are fully learnt by the visitors as such learning would help them to understand other collections (fig. 30).

These exhibitions can be organised for school children and can act as supplementary visual aid to the school syllabus. But these can also be undertaken for explaining different techniques
in art or crafts, or scientific principles.

5. Circulating Exhibitions

When a museum undertakes any type of exhibition, it is certain that a lot of effort goes into organising the same. It is appropriate if such exhibitions can be utilised by other institutions and museums who sometime can and may share the expenses and get the benefit of the work done by showing the exhibition in their institutions. This gives wider publicity to the effort and the same exhibition is visited by many more people even if it is in the same city or these can also travel from place to place and may cover a large urban as well as rural area and reach more people.

Such exhibition needs a careful selection of objects and other materials as well as thoughtful planning. The exhibition can be managed in different ways:

It may be only of objects mounted on panels which can be easily packed or unpacked and can be set up for purposes of exhibitions in any sheltered place. All captions, labels should be planned or incorporated in the panel itself so that no work has to be done at the site of exhibition. These can of course be set up in an existing hall or in a large room where light—natural or artificial—is available but it also should have protection against climate as well as from mischief-makers. If the objects need to be in showcase, they can be fixed in the showcases and showcases can be designed in a way that they can be easily packed or unpacked.

It is also possible to arrange such exhibitions in a vehicle, in a bus or trailer which can travel from place to place. Here the exhibition can be shown as planned in the original institution and no installation on the spot is needed (figs. 27 & 28).

In the circulating exhibition, whether only the panels and showcases are transported or whether the whole exhibition duly set up moves on wheels, it is necessary to see that the objects do not suffer in the transit and special attention is needed to plan the packing boxes needed for the movement of panels and showcases. The panels can be so designed that the frames of the same are projected over the panels and frames can fit into the grooves of one another so that they will slide and
thus would protect the objects mounted on them. Showcases with objects will need padded supports and partitions so that the objects do not rub together and do not suffer any damage. The sizes of the frames and showcases should be such that these could be easily handled by two labourers and should be of a size which can be carried through the normal sizes of the doors and openings. Railway carriages, buses, trailers and trucks are also utilised for installation of mobile exhibitions.

All these types of exhibitions are quite appropriate for trying new methods of presentation techniques. Successful techniques then can be adapted for permanent galleries. Dramatic presentation cannot be used for permanent galleries, but for temporary exhibitions a little dramatization may help in emphasizing the exhibit. Bold colour schemes, stylish lettering of captions, colourful props like stands or pedestals, use of plants and accentuated lighting can be freely used for temporary exhibitions of all types to make them different from the permanent galleries.

In our country a higher percentage of population is illiterate. The illiterate visitor of the museum needs special attention, as he can only understand and enjoy the exhibitions if the information is supplied to him verbally. For such visitors orientation programmes, guided tour or self-operated tape records are of great help and these should be particularly provided for special exhibitions.
DISPLAY TECHNIQUES
Display of Indian Miniatures—
A Case Study Of A Temporary Exhibition

Every new exhibition poses a challenge to the Museum Presentation Department. The two exhibitions of Indian miniatures arranged by the National Museum on the occasion of the United Nations Conference on Trade and Development held in New Delhi in February, 1968, were no exception. The display of colourful Indian miniatures is especially difficult because of the problems involved, first in creating the atmosphere sympathetic to the miniatures and secondly in bringing out the colours without making the whole exhibition too gaudy.

The themes of the two special exhibitions were Krishna-Leela or Sports of Krishna, and the Mughals. The original idea was to select the miniatures shown in the documentary films "Radha Krishna" and "Akbar the Great". Later on it was decided to have the two groups of paintings complementary to these films but developed independently. The miniatures were selected from the National Museum’s collection and each group consisted of 30 to 35 paintings.

The normal practice of exhibiting miniatures in the National Museum has been to place them in the standardized painting frames made of thin teak wood mouldings, glazed with glass and supported at the back by a piece of hard-board. The whole ensemble is hung with screw eye-hooks on the walls painted with a neutral colour, in a row, at a particular height with due regard to the eye level. This is an impressive way of presenting miniature paintings, also facilitating storage because of standardized
sizes. This method of presentation can be seen in the miniature painting gallery of the National Museum.

In case of a special exhibition of miniatures showing particular themes it was considered advisable to adopt group compositions. A few paintings of one theme were grouped together in one big aluminium frame. This method also overcame the difficulty of insufficient wall space. The display, being different from earlier miniature displays, helped to avoid repetition of the same style. Repetitions make the exhibitions dull unless handled very carefully.

The frames for holding the miniatures were made of aluminium section and covered with perspex. In this way there were compositions within a composition. The background was of a navy-blue handloom cloth giving a certain depth to the colours of the paintings and bringing out the subtle tones of the beautiful miniatures. The aluminium sections were 1½" wide and ½" thick. The frames constructed in this way were very light and appropriate to the delicacy of the paintings.

The groups were arranged chronologically, the first one near the entrance having the earliest paintings of the group. Paintings belonging to the section “the Mughals” were arranged on the left side of the entrance wall. The section depicting the Krishna-Leela was arranged on the opposite side. A general descriptive label was placed at the beginning of the exhibition.

While arranging the frames on the wall their tops were kept a little tilted. This procedure proved advantageous for two reasons: first, the paintings at the top of the frame were more visible because of the sloping forward position, and, secondly it eliminated reflections to a great extent.

The walls on which the painting frames were hung, were painted in a light blue colour. To relieve the monotony of a row of sloping frames a section of the wall was covered with the same textile which was used for the background in the frames and a few paintings in their individual frames were hung directly on the wall. In the opposite section a cloth curtain of another colour covered a portion of the wall against which the painting frames were hung on “polecats” giving an interesting break.
Converting An Old Gallery
For New Display

Adapting a Textile Gallery for Pre-Columbian Art

When Mr. Nasli Heeramanneck made his magnanimous gift of more than 350 pre-Columbian art objects to the National Museum, New Delhi, problems which the museum faced were more than one, foremost of which was where to exhibit these objects? Although the museum is housed in a building which was completed only in 1960, it is but the first unit of the structure and it is already hard pressed for space, storage as well as exhibition galleries. The reason is quite obvious: the collections have been growing steadily—thanks to the generous grants of the Ministry of Education and the efforts of the museum’s first two directors, Dr. Grace Morley and Shri C. Sivaramamurti, but the space at its disposal is the same as it was in 1960. To be exact, more than 30,000 objects have been added to the museum collections since 1960. The building was supposed to have had two more expansions during this period but these were postponed due to national emergencies and the result is that now the museum has to think twice before accepting even a generous gift.

In these circumstances, when the collection arrived from New York in the year 1967, it was stored in a second floor room and the hunt for exhibition space started. Such a collection could not have been allowed to lie in storage and the only solution was to squeeze exhibited material and to alter some already existing gallery.

All of us will agree that it is much easier to arrange things in a new gallery than to exhibit new things in an old gallery.
The problems multiply many times as soon as we think of adapting a gallery. Besides keeping the chronology of the exhibits one has to utilise the existing showcases and lighting fixtures, etc.

Coming to the specific problem of the pre-Columbian art objects, let us first see what these objects were, only then can we realise the magnitude of the problem faced by the display authorities of the museum.

The term pre-Columbian is used for objects of American origin belonging to the period before Columbus touched American soil in 1492. The Heeramanecck collection is composed of objects from Peru, Mexico, Porto-Rico, Costa Rica, Brazil, Columbia, Manabi (Ecuador) and Argentina, the bulk belonging to the first two countries. Besides belonging to so many different countries and often to many different cultures through a long span of time in each one, the objects were of more than one category—ceramics or baked terracotta in heads and figurines, as well as in funerary vessels, stone sculptures, wooden objects, gold and silver objects and textiles. The variations in size were also great from a tiny gold object of two centimetres to a stone piece of 70 cms. If things had been of one category or even of the same size, the problem would not have been so tedious. But as is evident from the description of the collection, the problems which the museum display experts faced were many: country-wise display, yet keeping overall chronology, and exhibiting a wide range of objects together. The unfamiliarity of the Indian public with these objects made the task even more difficult. Thanks to the expert technical skill of Mrs. Baxi, aided by that of a staff member who has seen and studied pre-Columbian art in the United States, the job was completed with such success that everyone might think that the gallery had been made only for these objects.

Before we take up the individual instances of alterations, it will be better if we know the textile gallery as it existed before the change. It was unanimously decided by the museum authorities that the only space which could be made available for this purpose was the right half of the textile and decorative arts gallery on the second floor. It was a gallery of 109’×51’ dimensions, having two entrances on each of its two ends.
Only half of the gallery was placed at our disposal, that is 109' × 26', with two entrances and six existing showcases and light fixtures.

The two entrances were utilised in the best possible manner for presenting objects of Peru and Mexico, respectively, which formed the bulk of the collection, at the two ends, along with necessary introductory labels, maps, charts, etc. Two table showcases were also kept in this introductory space which contained characteristic examples of objects displayed inside the pre-Columbian gallery. Highlighted in each was a facsimile of Mexican texts, illustrating the pictographic system of writing of Mexican peoples as a high point of their civilizations, together with textile examples as the great achievement of the Peruvian cultures. An especially made chart, showing comparative chronology of Peru, Meso-America, other ancient civilizations of the Mediterranean world and of Asia and India, was also displayed in this section of the gallery. The overall arrangement of the gallery was such that things of comparatively recent origin were kept near the doors and thus one proceeded from well known to lesser known, from styles the Spanish conquerors found, to the most ancient cultures of each area. The space in between was utilised for things of other countries.

Let us take the individual instances where alterations were made in the existing showcases to suit the new material. The earlier gallery had a showcase exhibiting Mughal glassware. It had three shelves and was so arranged that the objects were lighted from behind, from the top as well as from the bottom. Fluorescent tubes were used for diffused lighting. Even the shelves were of smoked glass. Luckily the front glass was triple safety glass, hence it was decided to utilise this case for Peruvian gold jewellery and other precious objects such as silver jars, copper tools etc. These objects were themselves so attractive and shining that we had to, first of all, do away with the bottom and back lighting, that is, we left only the overhead or top lighting. We also got rid of the shelves as well as the back glass. This left us with a showcase of 10' × 3'.3" without any shelf and about 40 objects, most of which were very small, to display. It is always better to have a dark background for gold objects and so we selected dark
blue cloth as background for gold objects. The small gold objects, mostly ornaments from Inca and Chimú garments, were attached to a rectangular board. This was done as a space saving device. Moreover these objects did not have anything on their back. Some of these had holes, which made their stitching to the cloth very easy. This board was displayed on the bottom level of the showcase. The Peruvian gold crown was displayed high above, approximately at the level of the wearer’s head, and was provided with a board, for background again, covered with blue cloth (the board in its turn was provided with an orange background). The copper tools were fixed on another board covered with vermilion cloth and had plain gunny or hessian cloth as its background. Silver jars and some other copper items were fixed on the back wall at different heights. Certain pottery items were displayed with the help of blocks. And to our surprise this showcase turned out to be the most attractive case (fig. 34).

The square pillar showcase of the earlier textile gallery (showcase at extreme left in fig. 35) was divided into two, turning into a pair of triangular and very unusual and interesting showcases. One half was retained by the textile gallery and the other half was used for Peruvian Mochica pottery wares. The triangular shape (fig. 36) was utilised with the help of blocks of different sizes and heights, all covered with gunny cloth. As most of these pieces were colourful in themselves, only plain hessian cloth was used for background. A similar showcase, at the other end of the gallery, was used for Central American things.

The rectangular showcase in the earlier textile gallery (the long central case in fig. 35) was similarly divided into two, one half was retained to the textile gallery and the other half was used to display small Mexican objects. Blocks of different heights were used to break the line and wherever possible a little colour was also added to break the monotony of the gunny covered wall and to furnish a rough indication of change from culture to culture. All the blocks were also covered with hessian. On two ends of this case, which served as partitions, things were hung on walls also. For small objects, boards covered with cloth of different colours were
used, thus providing change for the eyes of the viewers.

Another problem showcase was the one which had earlier exhibited a variety of large Punjab phulkaris. Its dimensions were 14'6" × 3'1" × 11'0" and it had a sloping base. The base was too low to be in harmony with the changed gallery and moreover, the sloping deck could not be put to any use. Also the glass, because of limitation of size, was not satisfactory for smaller scale objects. The alteration allowed for improvement. Hence the height of the base was raised from 15" to 3' and then the showcase was used for exhibiting Nazca pottery and textiles, which it suited admirably well because of their small size. The colourful Nazca pottery was exhibited on blocks of different sizes and heights covered with hessian cloth. Three textiles from the region, or approximately the same period, helped to cover the wall expanse above.

Besides changing these cases, a few new cases were added to the gallery. A new showcase was built forming a sort of divider between the main groups to exhibit Mayan things on one side and early Peruvian antiquities on the other. Two standard table showcases were used in the centre of the gallery for exhibiting small textile pieces with some illustrations in photographs of how these clothes were used. Similarly two standard wall showcases served for displaying in appropriate places in the gallery Mexican and South American objects, again with the help of blocks. A small hanging wall case was designed to exhibit the Mayan terracotta figurines of delicate scale. The stone sculptures were exhibited at different places on pedestals according to the chronology and country of their origin. This helped in filling the empty places in the middle of the gallery. A few big size textiles were framed and hung on the wall. And thus a completely changed gallery was thrown open to the public by the President of India, Dr. Zakir Hussain, on the 22nd of March, 1968.
Displaying Decorative Art Objects

Decorative art is a term very loosely used in museum terminology. Its scope seems to differ from museum to museum and person to person. If the literal meaning of the term is taken in actual use it is not quite so. Even utilitarian objects having decorative motifs are taken into this category, such as a Bidri huqqa or an ivory pen.

There is another school of thought which does not believe in this false line of demarcation between the fine arts and decorative arts. It says that until the industrial revolution there existed no distinction whatsoever and that the first recorded use of the word ‘decorative’ in this connection dates back to 1791. Before this, art was art and no such artificial division existed.

Dr. (Mrs.) Zdenka Munk, Director of the Decorative Art Museum at Zagreb, Yugoslavia, while touring India pointed out that at Sanchi Stupa torana there is an inscription stating that ivory carvers participated in the carvings of stupa which is made out of stones. She said that according to the so-called division, the ivory carving is a decorative art but this inscription shows that both these arts on stone as well as on ivory were on the same footing in the ancient times. A free standing ivory carved figure of Lord Krishna is equally pleasing to any eye as that of a stone Krishna figure, no matter what their sizes are.

Dr. Munk posed another interesting question—painting is classified as a fine art whereas the same painting when done on a wooden figure or a wooden door is termed as decorative art. Why this distinction? Both please our eyes and both
evoke aesthetic feelings. After all, art is most simply defined as an attempt to create pleasing forms which satisfy our sense of beauty.

It is distressing that these so-called decorative art pieces, which are much more nearer to common man's life than the formal arts, are given less importance in the museums throughout the world. It is high time that we realise the importance of the so-called decorative art pieces which should have a gallery by themselves in each museum rather than accompanying the so-called fine arts pieces. This gallery of decorative arts can be made more charming and attractive because of the variety of objects and their colourfulness.

Anyhow, not going into the controversy too far, let us now discuss some of the basic problems involved in the display of these art objects, such as ivory, glassware, Bidriware, wood-carvings, textiles etc. Since the shape, colour and the very nature of these things differ so much we will have to consider the individual types and their concerned problems separately.

Ivory

Ivory carvers of India have been very famous since ancient times and there are references to 'dantakar bithi' at Vidisha in Pali texts. Figures manufactured in India were exported and have been found in Kapisha, Afghanistan and Pompeji, Italy.

Since most of the ivory figures are small in size, their display requires great attention. Figures of deities, which are carved in round, will have to be shown differently than flat things, which could either be displayed in table showcases, or in built-in showcases having shelves or even better on individual brackets in big showcase. Brackets at different heights help breaking the line and monotony. If the figure is carved in round, it should be shown in a case having glass on all the four sides or else on a pedestal with a perspex cover.

Ivory figures being white or pale-white, the background will have to be dark or some neutral colour. Textiles of varying shades could well be used for the purpose. Wooden blocks used as pedestals or background, can also be covered easily by textiles.

Usually, the ivory collection in any museum is small and
no museum can afford to devote one full gallery to it. These could be shown in showcases in various galleries, arranged according to chronology. For instance, in the National Museum, New Delhi ivory items are shown in Harappa gallery, in Sunga gallery and also in Kushan-Gandhara gallery.

Glassware

Museum collections in respect of glass go back only up to the Mughal period and even these are limited in form and designs. Most of these are Gulabpash, huqqa bowls, other bowls and dishes etc. Sometimes these works are golden worked also.

The greatest problem in displaying the glass material is how to avoid reflection and yet bring out the highlights of the craftsmanship. In the National Museum, New Delhi a wall case has been so prepared that it avoids any reflection. For this purpose fluorescent lights have been fitted in this case all round, down sides and also at the back. The glass used in the background is a sort of smoked glass so that the effect is harmonious. This showcase exhibits huqqa bowls, Gulabpash, dishes etc.

Flat things, like a glass plate, could be shown in a table showcase. If the plate has work on both the sides, a mirror could be used below the plate to bring out the details below. Proper lighting and background are equally important. Glass objects, which are usually of light colours, should have dark colour background. A neutral colour is still more preferable. Hand-woven silk could be nicely used for this purpose.

Bidriware

Bidriware derives its name from Bidar—a small town near Hyderabad in Andhra Pradesh where this type of objects are manufactured. These are made of an alloy—zinc, copper and iron etc. which becomes black in colour when a particular local earth is rubbed upon it. Over this black surface the Bidar craftsmen work with silver inlay. The process sometimes differs. The usual objects made by the Bidar artists are huqqa bowls, Ugaldan, Pandan, Silpachi, bowls, cot legs and sometime even chairs and tables.
FRONT VIEW
Showcase for Glassware.

Section through Light Box.
It is preferable to show these in wall showcases, the size of which should vary according to the size of the objects. To break the line, it is better to show these on blocks of different heights and sizes. Flat objects like Silpachi, dish etc. could be shown in a table showcase also. The background for these objects should be of lighter tone say, light buff or light cream colour, since the objects themselves are black in colour. Fluorescent tubes which are uniform in their effect, should be used in the showcases and louvre fixed for bringing smooth tone. In a showcase having many items, group labels should be preferred to the individual labels. Some photographs or charts etc., detailing the process of manufacture of these objects, will add to the knowledge of the visitors.

Wood Carvings

Wood has been in extensive use in India since long and it antedates stone in architecture and architectural carvings. Being heat resistant it found favour with house builders from the hut stage to even the present day. The Vedic literature is full of references of wood and the Greek ambassador Megasthenese tells us of a very big wooden palace in Pataliputra in the 3rd century B.C. Furthermore, its use was not limited to only architecture, it being used for various other items like the wooden bowls, wooden spoons, sculptures, small figurines, furniture etc.

While planning the display of wooden objects, the most important thing to be kept in mind is the size of the object. Sometimes these are very big, a door jamb for instance. Windows, doorways etc. should be so displayed which may indicate their actual use. In certain cases we can half open the door leaves sometimes to show the workmanship on both the sides and sometimes to dramatise the effect. Spot lights could be used here quite effectively.

Small figures should be displayed in the showcases to protect them from dust and handling. These could either be clamped against the wall showcase, or put in the table showcase, a decision which depends on the size. Care should also be taken in choosing the background for the wooden figures. A neutral colour, like buff, or light chocolate or light cream is
always preferable. If cloth is used, it need not be, rather should not be, of a fine texture.

At this point, mention could be made of a problem which the National Museum, New Delhi faced a few years ago. A wooden temple was acquired by the museum from Gujarat area. The height of the temple was 16' and the gallery height did not suit its exhibition. So, the problem was how to exhibit it? Keeping the height in view the museum authorities separated the doors and the dome and arranged separate exhibitions. The dome is presently kept on four pillars, so that the visitors can go below it and admire the marvellous craftsmanship, which reminds one of the Mount Abu temples. It is flood-lighted from beneath with the help of four fluorescent tubes which bring out all the details of the carving.

Sometimes a museum does not possess a complete object and has only certain parts of it, and wants to show them. The best way to show these is to put photographs of complete items by the side of the exhibited objects so that the visitors can appreciate and can know the purpose of the things exhibited. To cite an example, we saw in a museum a big photograph of a wooden chariot, shown along with certain parts of it and making it clear as to where these items must have been used.

Textiles

Although the antiquity of textiles goes back to Indus Valley Period, it is among the most perishable materials of all the museum exhibits and so also the most difficult to display. Besides being very fragile, very often no two textiles are alike in texture, in colour and in size and so their problems are many and varied in nature.

Frequent climatic changes make it necessary to restrain exhibiting textiles for a very long period. Constant exposure to light, too, is harmful for textiles. Periodic changes will not only save the pieces from damage, but will also sustain the interest of the visitors. As far as possible textiles ought to be exhibited in glassed cases to save them from dust etc. The range of textiles is too wide, it includes big carpets as well as small Chamba rumals and woollen shawls to silken Patola
sarees. Each piece has its own typical problem and needs to be dealt separately.

(a) Carpets

These are meant to be spread on floor and are usually quite big in size. But if we spread the carpet in a museum, we run into the problem of space, which almost every museum is short of. Even if it is displayed on a platform, as is done in the State Museum, Jaipur, it still occupies too much space. Instead of that, if the carpet is hung or suspended from ceiling, a technique adopted by the Maharaja of Jaipur Museum, it will mean too much strain on the fibres, especially the brocaded ones. Moreover, if the walls are covered with carpets, one cannot show the paintings or other items on them and it also brings in the sense of overcrowding. Actually the solution lies in between the two methods.

One very important factor to be kept in mind while exhibiting the carpets is that most of these show repeated patterns, that is to say the pattern on one half is usually repeated on the other half also. This brings us to the point that we could show only one half and yet show the whole pattern and thus save the much needed space.

The National Museum, New Delhi has exhibited a carpet keeping these factors in mind. Half of the carpet is rolled on a roller fixed on the top of a sloping platform. The other half is spread out on the platform. This has given support to the carpet and made possible the exhibition of essentials and yet saved space. To give it protection from dust it is kept inside a wall case, which is lighted from top with the help of tubes. But if the size of the carpet is very big, it could remain open also, which can be covered with a piece of cloth in the evening, so that it is saved from the dust, moths etc. As against this, if the carpet piece is too small, it can sometimes be framed as a painting and exhibited on wall or shown inside a large showcase (figs. 1 and 2 on next page).

(b) Sarees

The most popular dress of the Indian woman, rather the symbol of Indian womanhood, is most difficult to display. It
Fig. 1. Section of Showcase.

Fig. 2. Showcase for Carpet Exhibition.
is five to eight yards long and 48" broad strip or piece of cloth made from either cotton or silk, the texture differing from region to region. Most difficult to display are the brocaded sarees.

In a museum, the sarees should not be shown wrapped on models, because the intention is to show the various motifs and workmanship and not as to how these are worn by ladies. The best way to show these is to hang these on a rod in a showcase on two rods to use both sides of a showcase. The showcase should be wide enough and having provision for lighting from above. The distance between lighting tubes and textiles should be at least a foot. Fluorescent tube light is preferable for sarees, it being harmonious and bright.

The most important part in a saree is its palla and border. This is why some people feel that it could be shown in a table showcase also by folding and exhibiting palla only. But brocaded sarees should not be shown this way, otherwise there is the danger of their developing folds which are very harmful. Only printed cotton sarees or silken sarees could be exhibited in table showcases.

Same technique of showing only palla and border could be applied to shawls also.

(c) Chamba rumals

Although small in size, Chamba rumals are equally difficult to display. Their characteristic lies in the fact that the stitch is so nicely done that it looks quite similar on both sides and one cannot say which is the obverse and which is the reverse. If we frame them like paintings, as is usually done, we get only one view. To overcome this difficulty these should be framed in perspex sheets on both sides and fixed at right angle to the wall. An even better way to show it is to fix it on the wall with the help of hinges, and put a label below— "Please turn over to have a look of the back view." This will provide a practical thing to be done by the visitors who always want to participate in such activities.

The account will not be complete without mentioning some new and happy trends regarding the study of decorative art objects and their display in the museums in India. The subject
for discussion at the third Museums Camp, organised by the Union Ministry of Education at the Prince of Wales Museum, Bombay in 1965 was "Decorative Arts (including Textiles) in Museums". All the aspects of the subject were thoroughly discussed and it was unanimously agreed that decorative art objects should be given due importance in our museums. Whenever possible the museums should have a separate gallery for these objects and this should be arranged with same care and pains as any other gallery of fine art objects.

The Prince of Wales Museum has reorganised one of its galleries which is now completely devoted to the decorative arts. Although this gallery is a long, narrow one, the space is judiciously utilised. One showcase is worth mentioning. Inscribed copper bowls worked on either sides have been put on well lighted blocks (these blocks having glass tops), lighted from below which enables the viewers to see the details clearly. Let us hope other museums also follow suit.
On Displaying Coins
In A Museum

Coins form one of the most important sources of Indian art-history besides substantially contributing to political and economic histories. Dates found on coins put history on a firm footing and dresses, arms, crown and other features struck on coins help us in studying the art of the particular period and thus provide important clues for identification. But somehow the study of coins has been neglected in India and even in museums they have not been given due importance.

In any museum, big or small, a coin collection forms a major part of its total collections. For instance, in a leading museum of our country, out of a total collection of nearly 90,000 antiquities, the number of coins is about 36,000 which is numerically the biggest collection of one category of objects in that particular museum. But the space allotted to the display of coins in the museum is only four table-showcases. Question arises as to why it is so? To our mind, there are several reasons for this.

Visually the coins do not attract the attention of common visitors, that is, being small in size they escape notice. Another reason of displaying only a few coins in a museum, is the belief that numismatics is a specialised study and, as such meant only for a few. Yet another reason of not displaying many coins is the problem of their security. Coins, being very handy and small and having great metallic value, are the most tempting among all other categories of museum objects and not every museum can take adequate steps to safeguard them.

Let us see how we can face these problems. Artistic and beautiful figures of gods and goddesses or of kings and queens
depicted on the coins usually escape the attention of
visitors. Sketches of Gupta coins showing Samudragupta
playing on the vina, would not only interest a common visitor
but also help the art-history students in understanding Gupta
art. Large sketches of such interesting items could be displayed
together with the coins. Another means of tiding over this
visual difficulty could be to put up photo-enlargements of the
obverse and reverse views of the coins. But these should not
be very big or too many. What is meant to say is that if
hundred coins are on display, we can put, say, ten photo-
enlargements of selected coins. These photographs and
sketches should be so placed that they serve only the function
of attracting the visitors and do not stand in between the coins
and the visitors.

The fact that visually coins are not very attractive justifies
not too many coins displayed at a time. There should be one
or two showcases, one showing development of Indian coinage
and the other should be devoted to changing exhibitions of
coins. Such changing exhibition should show coins of one
particular dynasty at a time, say for a month it can show
Gupta dynasty and so on. All the varieties available with the
museum should be put on show with introductory labels, enlarged
photographs, charts showing their weights and different
mints etc. shown alongside. The introductory label should
mention coins of this dynasty, existing in other museums and
not available for the exhibition. Similar exhibitions of
Kushana coins, Tribal coins, and Mughal coins could also be
organised.

Regarding the notion of numismatics being a specialised
study, if a proper approach is made, we are sure the coins can
interest even a commoner. It is a well-known fact that in
student-life, coins are the most readily available item of hobby
for students to collect. To cite an example, the author started
his career as the curator of a small government museum which
was attached to the Govt. Inter College in a district town of Uttar
Pradesh. He once spoke to the boys about the importance of
coins in building up history—the great discovery of James Prinsep
in deciphering the Brahmi script with the help of bilingual
Indo-Greek coins and also told them to bring old coins to the
museum. From the very next day many boys came forward offering their coins, out of which he could pick up a few for the museum. And most delightful was the discovery of an earthen pot filled with Balban's copper coins, which the boys discovered while performing Shramadana. Almost everyday many gold and silver coins are destroyed by melting them for making ornaments. If we make the younger generation conscious of the great importance of coins we are sure, that numismatic studies can become more popular and this criminal waste of coins could be checked.

Security of the coins is another problem. What is required to give more safety to these is bullet-proof glass and steel framed showcases. Furthermore, the showcases should be securely locked and keys kept with two officials, ensuring that no showcase can be opened without the presence of both these officials. In fact, this should be applicable to all the museum keys that whenever any case is opened, it should be done in the presence of two or more than two officers. Another device, of fitting electric alarm bells in the showcases, costs quite a lot and not every museum can afford it. Besides cost, the recent theft in the Natural History Museum, New York, where the thieves stole the most previous jems and diamonds by switching off the electric current makes one think that even this is not quite safe.

There is a group of museologists in our country, which believes that the gold coins should not be displayed at all for reasons of security and these should be shown to public only on special request. But probably they forget that some of the best examples of Indian coinage are available in gold only. We do not believe in this principle and would recommend that, whether gold or silver, all the coins should be kept on view by rotation. Actually they are more secure while on view than kept in the safe, where they are checked only once in a while. But once displayed, they are constantly under watch. Of course, proper security arrangements are a prerequisite for display. For providing additional interest, transliteration of the scripts found on the coins, could also be put up together with coins. Certain coins have very interesting legends and their accompanying translations further the interest of the visitor in coins. A big map, showing the kingdom of the king or the
dynasty concerned, should also be displayed along with them.

Let us now examine the various types of showcases suited to the display of coins. These could be of two types: table showcases and the showcases built against the wall. Table showcases are handy, less expensive and could fit in any big or small gallery, hence these are more popular. The usual framework of such showcases is wooden, but it is better to use steel or aluminium frames since they are light in weight and sturdy in built. Glass should be provided on all the four sides and the top; the bottom being of wood. It is safer to use bullet-proof glass. Inside the showcases should be kept a slightly sloping tray covered with fabric. For gold and silver coins the background could be dark blue or black and for copper light-buff or cream colour. The contrast should not be too striking.

The wall showcases should be two-tiered, which means providing more exhibition space and better exhibition facilities. The vertical position parallel to the wall should show photo-enlargements (which should not be more than three times the coins) and the horizontal position parallel to the floor should exhibit the coins. For better viewing this latter portion should be a little sloping and the coins should be exhibited at a height where they could be viewed conveniently.

Regarding the exhibition of coins in a way so that their obverse and reverse sides are both visible, we can adopt the following methods. If the museum collection has two coins of the same variety, these could be shown together—one showing obverse and the other showing reverse. But usually it is difficult to have two similar coins and in such cases we could exhibit photographs of the less important side, mostly the reverse. Two-tiered showcases are convenient for such exhibitions when we show photographs and coins, put them in place and then sandwich the ensemble between two other perspex sheets. Now this whole thing can be shown at right angle in a showcase which provides viewing from both sides. Again, this should be exhibited at eye level.

There is a difference of opinion regarding labels and their position inside the showcases. Our feeling is that the labels should not be very big and overstuffed with information.
Names of the kings, dynasty and dates are a must for any label plus some special information if any. It need not give obverse and reverse legends etc. which do not interest a common visitor. As far as the position of the label inside the showcase, if we put individual label below each coin, it will not only be overcrowding but will look ugly and distracting. The best way is to provide a group label in the lower right corner of the showcase, or to provide a sketch outside the showcase marking the positions and giving proper labels.

In this way, if the exhibition of coins is arranged with proper planning and foresight, it is bound to attract visitors and prove popular with the masses, especially with students, and thus the study of numismatics can progress in a sound and healthy way.
Educational Services in U.S. Museums And Lessons They Provide For India

The educational importance of museum is now being realised all over the world and emphasis on this aspect of their functions is increasing. Any living museum has to have a dynamic department of educational services to serve its visitors who range from retired old persons to young children going to nursery schools. Due to more and more of mechanisation, man has much more leisure time now than he had ten years ago. In most of the technically advanced countries people work only for 5 days in a week. However, not every week-end can they go out on a holiday. In such countries, naturally museums are one of the best places to spend their leisure time, especially in the winter season when it rains or snows heavily and people cannot go out of town into the country side or take a walk for pleasure in the city. Another reason for many people coming to museums may be that they not only pass their leisure time but learn new things also. Furthermore, the museum provides a different and pleasing prospect to the eyes, which are otherwise tired of looking at mechanical or monotonous things. Besides the layman, museum also makes a contribution to the creative efforts of artists and craftsmen by placing at their disposal examples of different styles of art in every medium and technique. Anyhow, the importance of the educational function of the museum has lately increased and the U.S. museums, having already done a pioneer job in this field for several decades, could serve as an example for any country where the museum movement is comparatively young.
The author had occasion to visit some of the leading U.S. museums along with an exhibition of Ancient Indian Sculptures as its Curator-in-charge. Once the exhibition was set up, he used to devote his time in studying the collections of these museums and also studied their educational and display activities. These museums included the Seattle Art Museum; the Nelson Gallery of Art and Atkins Museum, Kansas City; the Chicago Art Institute Museum; the Cleveland Museum of Art; the Detroit Art Institute Museum; museums in Washington D.C., in New York, in Philadelphia and in Boston, etc. Thus, he covered quite a cross-section of the country and its museums, from comparatively new museums to those long established. He had, indeed, the privilege of seeing most of the important museums of the U.S. quite intimately.

The Seattle Art Museum is very famous for its Oriental Collections—Chinese, Japanese, Nepali, Javanese as well as Indian. But their permanent exhibition galleries are fewer in number than the temporary exhibition galleries, in which they hold a number of exhibitions each year. Such a programme means that persons in the education department have to keep their knowledge up-to-date. What is most surprising is that the whole department is managed by two ladies only—a Curator and an Assistant Curator. But these ladies are assisted by the "Museum Guild"—an organisation of women offering voluntary services. These members of the guild are properly trained as a museum guide for two years before they start leading tours of the galleries and they are called 'docents'. To maintain one's status of docent one has to perform services for a certain specific number of hours in a year. Other members of the Museum Guild participate in another programme of the museum, known as the 'treasure box' programme. Boxes are filled with material about a particular country on some special theme, say for instance the 'Japanese dance'. In the box marked as 'Japanese dance' one will find dance costumes, photo-enlargements showing various dance poses, etc. These boxes are prepared, keeping in view the needs of students of IIIrd to Vth standard and are lent out to Museum Guild members who take these and deliver lectures in various schools. The museum also has an excellent colour
slide collection, which it lends to students of art. It was a great surprise to find here quite an extensive collection of slides on Indian architecture, sculptures, etc. Organising weekly music programmes and film-shows are among other regular museum activities.

The Nelson Gallery and Atkins Museum, Kansas City, is situated in the State of Missouri and is the only one of its kind in that area. The museum has an excellent collection of Indian art, as also the art of other ancient civilisations. A Creative Art Centre and Junior Gallery, the later exclusively for young visitors, function as units of the museum. Saturday classes are also held every week for imparting training to interested members in the art of painting, sculpture, puppetry, etc. The children have their own library, where, besides borrowing books and magazines, they can also borrow framed reproductions of masterpieces of paintings. These may be retained by them for a month and then a change may be made. This to me seemed a most interesting and effective technique of exposing the young people to art from their very childhood. The Museum also provides guided tours of the galleries, which are conducted by the "Friends of Art"—a voluntary organisation of women. Their members take intensive training from the curatorial staff and then in turn take visitors around the museum. Tours are also conducted by 'Junior League' members who are young persons trained as guides. Here it was a pleasure to note that the students of 3rd standard read about India in their curriculum and then are taken around the two museum galleries exhibiting Indian art. It is always a fascinating experience to see people admiring the objects from one's own country in a far distant land.

It was very interesting to see a small but quite instructive exhibition in this museum. It was a "Sculpture" exhibition as they had titled it and showed all the various media in which sculptures can be executed out—stone, wood, clay, ivory, zade, bronze, brass, crystal, gold etc. as well as the process involved in making sculptures from these materials and their typical examples. Similar exhibitions can be organized for painting or other fields of art.

The other museum which can be mentioned here and which
is known for its educational activities, is the Cleveland Mu-
seum of Art. The Museum has quite a big staff as compared
to other museums and that is why they have a quite extensive
programme of educational activities. Most of their gallery
tours are conducted by their own staff members, of course by
previous appointment. They have school visits every day but
prefer that such visits be organised on Saturdays, when they
have extra staff for handling these visits. Schools being closed
on Saturdays, the art teachers of these schools work in the
museum on that day and take school groups around the galle-
ries. The museum also runs ‘Saturday Classes’ for the benefit
of those who cannot come on other days and in these classes
they introduce the students to the art of various countries and
periods.

Besides this the museum has a gallery talk each week by
one of its staff members. It is properly advertised and people
assemble in the gallery to listen to this talk, which is usually
of 45 minutes, followed by a 15 minutes question-time. This
is a good method of giving more information about a particu-
lar art or a period which is not possible in a museum tour.
Every week the topic of the gallery talk and the speaker
changes so that people’s interest is sustained. This museum
also holds ‘Summer Classes’ in painting which are sometimes
held outdoors in the open. Even grown-up persons, besides
young ones, attend such classes very enthusiastically. The
museum has provided class-rooms for the University Depart-
ment of Art-History so that besides the theory the students
can study the actual paintings and sculptures, etc. in the
galleries. This makes quite a difference in appreciating works
of art.

The Museum organises school visits of blind students and
they are allowed to touch certain exhibits in order to have an
idea about art objects. I once witnessed a blind girl touching
a modern bronze sculpture and was moved by the scene.

The Museum also has a separate department of ‘Circulating
Exhibitions’ which serves the neighbouring smaller towns.

Detroit is a big industrial city where cars are made and
supplied all over the world. The city has an Art Institute
(an art museum), which has all these activities mentioned
previously. The museum also houses an Archives of American Art, which functions as an independent institution. This archives has collected all possible data about American artists—where their works are displayed, which works have changed hands, their personal letters, books, manuscripts, half-finished works, photographs of their personal lives, etc. In addition, officers of the Archives are at present engaged in tape-recording interviews with older artists and helping them in every way. This is an unique institution different from others known.

Near Detroit there is a village known as Greenfield Village, a place which takes the visitor back into the past to a period 100 years ago or even more. One can ride on a horse carriage driven by a bearded coachman and see around an old wind-mill, a wooden bridge and many old fashioned houses. For American people who are really obsessed by the life of speed they are leading at present, especially for young ones, this is almost a fairy-land. The whole village is a living museum and each house is an exhibit in itself of the history, art and craft. The house of the Wright Brothers who invented the aeroplane, the house and workshop of Thomas Edison, the inventor of the gramophone, etc., the house of Webster who compiled the dictionary are among the other historic houses which are very popular. They are maintained as they were in their days of use, and one feels as if somebody is still living in them. Each guide who takes visitors around has a key to all these houses which are otherwise locked, but when they are opened the fire is burning in the fire-place, the candles kept at the dining table and all is neat and clean. In Webster's house a shawl was kept on a chair's arm, a book was open on the table and the spectacles were kept on it, to give an impression as if someone had just gone out to the other room and would come back any moment. And above all, the visitors are served the same kind of 'cider' and 'cookies' as were available in old days in an inn. The whole thing is most fascinating. The village is managed by the Fords, who also have a Henry Ford Museum nearby. Again this museum is totally different from others, full of different models of cars, railway engines, tractors and even aeroplanes, also smaller
things like watches, clocks, telephones, gramophones, sewing machines, etc. One can see the development of these machines stage by stage. At this museum there is a 125 years old printing machine. The operator showed how it worked and also gave its prints to visitors.

All other museums had similar activities. Some big museums have separate children's sections, for instance, the Metropolitan Museum at New York. Others cater to all simultaneously. But the emphasis in museums in the U.S. is always to educate their visitors, each one busy in devising new, means of attracting and educating people. All these programmes may not be possible here because of so many reasons, but certainly we can try some, modifying them according to our own needs. What is important is that our people, who are experiencing new things in every field (not necessarily always happy), should be relieved of tensions, and provided healthy diversions. In this aspect of life, museums in India can play a very important role. In olden days the temples were the main centres of activities for the whole community, let that role now be played by our museums.
Museum Publicity As A Media of Education

Consciously or unconsciously we are all susceptible to publicity in our daily life and to a great extent our decisions are influenced by the more publicised things. In fact, publicity has become the backbone of any movement and it is only through planned and well-organised publicity that one can reach the masses. We believe that with an improvement in our publicity media, our museums can have much better response from the public than they are having now.

Almost all the museums in U.S. have either a full-time or a part-time publicity officer who carefully plans the publicity campaign for any exhibition. For an example of well-organised publicity programme, let us take the occasion of Indian Sculpture exhibition in the Cleveland Museum of Art, Ohio.

The publicity campaign started only twenty days ahead of the exhibition’s opening. All the newspapers, radio and TV people were given a carefully planned folder which had ten large size selected photographs of sculptures, a catalogue and a brief write-up about the organisation and origin of the exhibition. Thus, a concerted or joint move was made and all the newspapers gave almost one full page for photographs from this exhibition. Simultaneously, big as well as small posters were displayed at all the important public places like airport, railway stations, departmental stores, book-stalls and even the hotels and restaurants.

Months before all this was done, he ‘museum-members’, who number 10,000 in the case of the Cleveland Museum, were informed about this exhibition through the museum calendar, which gives information regarding the forthcoming events in
the museums. A very successful method indeed. They received invitations to the formal opening about ten days in advance. Over 900 attended the opening.

The TV people showed the uncrating of the sculptures, emphasizing their weight and size. Later on, when the exhibition was almost half-way over, another TV show was also arranged. A radio talk was also broadcast coinciding with the opening of the exhibition.

Before the opening took place, a press-lunch was convened in which the Director of the museum and other curators spoke about the exhibition and answered the questions of newspaper men. On the opening day, almost every newspaper brought out a number of photographs showing the exhibition in its final setting. The newspapers also brought out a good number of articles, almost every week, on the various aspects represented in the exhibition. One of such topics was the 'hair do' in the Indian sculptures. Such comments sustained the interest of the people and were so arranged as not to overlap each other, i.e., if one newspaper printed something this week, another one published yet another topic next week. The local newspapers also brought out several articles.

The schools were personally contacted and special visits of the children were organised. They were provided with guides who had earlier taken pains to learn about the exhibition.

Gallery talks and lectures were also organised for the people who were interested to know more about the exhibits. To provide a perfect Indian atmosphere, even an Indian dance was organised for the museum members, which was very well received.

The museum also invited local artists—painters and sculptors—to visit the exhibition and write their reaction in the papers. Special invitation cards were printed for this occasion which showed Indian sculptures and the monuments from which these sculptures came.

Another important instrument of publicity is inexpensive catalogues and colour picture post-cards. A catalogue of this exhibition was on sale for $1.50 only and it illustrated all the
118 items included in this exhibition. Coloured picture postcards were also sold.

The result of this organised campaign was that within six weeks of showing, the exhibition attracted 54,000 persons, despite the bad weather and the holidays.

Many of these techniques can be adapted in our museums without much expenditure and the Indian museums can make a better place for themselves in their communities. One very inexpensive method is putting of rubber-stamps on every letter despatched from the museum announcing the exhibition and thus news can be spread far and wide.

Such organised publicity programmes not only attract many visitors to the museum but even impart education to those who are unable to come to the museum.
Museum Research and Publications

For proper interpretation and understanding of any museum object, it is essential to make a thorough research and for disseminating knowledge so gained, museum publications are the best vehicles. Just like a doctor, who first goes into the case history of a patient before prescribing him any medicine, the first thing a museum curator should enquire about an object is its previous ownership or the place from where it was acquired. Present conditions of Indian antique market make it an essential preliminary to avoid buying any stolen thing. Even otherwise knowing whereabouts of an art object helps in finding comparative material for research.

The first thing to find out is the theme which the art object represents, i.e. if it is a painting for instance, one has to find out if it belongs to a series of Ramayana, Mahabharata, Nayaka-Nayika-bhed, Raga-Ragini or if it is complete by itself. Similarly, if it is a sculpture, what does it represent: a Vishnu, a Hara-gauri or a Buddha. If there is any difference in its representation known from iconographic texts or from other statues, it should be properly investigated and recorded. The next thing needing research is the medium, i.e. pigments in the case of painting and stone in the case of a sculpture. All this information, as well as provenance, is a must for any label in a museum. Thereafter comes the stylistic studies, a matter of research for scholars. Whether the object in question or similar objects have been published earlier should also be investigated properly. Thus, the museum research should be so oriented that is should cater to the needs of common public as well as scholars.
Knowledge so gained by research should be put to use in preparing introductory labels as well as individual labels. Museum objects should form subject-matter of scholarly publications also. This could be done in the Bulletin of the Museum, if there is one, or in other research journals. At the same time, features based on museum objects, should also appear in daily or weekly newspapers. This will have double effect: persons otherwise not coming to the museum will be attracted to it, and such an article, written in simple words, will interest general public and will reach a wider range of people than a research journal of limited circulation.

The foremost need of the museum publications is to keep their prices within limits so that more people could buy them. This, usually people will argue, is not possible because of plates in such publications. But, if a little imagination is used, we are sure the prices can be brought down considerably by the following measures.

The number of illustrations should be barest minimum and as far as possible line drawings and sketches should be used. If this is not possible, the book should have two editions—one with limited illustrations for the general public and another with more illustrations and nicely bound, for libraries. Plates used in the book, should also be utilised for making picture post-cards, calendars and greeting-cards. This has immense possibilities and if properly organised can be a good revenue earner for our museums. Another tendency of our museums is to publish the whole book on art paper, which enhances the cost. Only the plates should be on art paper and text on off-set paper.

Small introductory pamphlets on various collections of the museum, and for every—special exhibition, are a must for a good museum. Small museums, who cannot afford printing such pamphlets, can use cyclostyled text with printed covers.

Picture post-cards, colour as well as monochrome, have good possibilities of sale if they are printed in large numbers and prices are not too high. Price factor is quite important and the museums have to try hard to keep it within purchasing limits of the general public to make it reach greater number of persons.
CARE AND SECURITY OF MUSEUM OBJECTS
Care of Museum Objects—
Some Practical Suggestions

Preservation of heritage is one of the primary functions of a museum. The objects acquired by the museum are, however, usually in damaged condition because of their antiquity and need conservation. Such objects have to be treated by the expert conservators, and the curators, not having knowledge of conservation, should not indulge in any treatment themselves. In many cases the objects coming to the museum are in good condition and their life can be lengthened by taking a few precautions which are discussed below.

The types of art objects we come across in our museums are stone sculptures, metallic objects of copper, silver, gold and their alloys, textiles, paintings, manuscripts, wood, bone, ivory, feathers etc. According to chemical laws stone, metal, porcelain and terracotta are all inorganic and usually do not pose a very great problem in their preservation. In other variety—wood, paper, textile, leather, bone, ivory are all organic and are liable to deteriorate more easily than the inorganic material.

The conditions within the museum under which specimens are to remain stable are control of humidity, temperature, lighting, dust and smoke filtration, sterilization and fumigation of the organic material and their proper storage. Extremes of temperature and humidity are to be avoided. The desirable limits of humidity and temperature in our museums are 40-60% humidity and 50-70°F temperature.

Ventilation allowing free circulation of fresh air is another desirability. Stagnation in the atmosphere inside the museum galleries is not desirable.
Museum lighting is another very important factor. Action of light on museum objects is in two ways:

(a) Fading effect of pigments in coloured material, and
(b) Photochemical degradation of material (textiles).

Certain pigments are more sensitive to light than others, and a compromise between intensity of illumination and its colour effect has to be reached. So far best combination is tungsten lamps combined with light blue fluorescent lamps. The fluorescent “day light” lamps with colour temperature approximating 4500° (Kelvin) are the most effective lamps for general use. Distribution of light on the exhibits should be as uniform as possible and it is preferable to use translucent or transparent glass panes in front of the light source.

Insects are probably the most dangerous enemies of museum objects. To guard the collection against insects cleanliness is necessary, regular inspection of collections ensures detection of attack at an early stage. Naphthalene-balls or para-di-chlorobenzene should always be placed with textiles to prevent moth-attack.

The material in the showcases of the museum is more or less under observation and the signs of decay and damage can be noticed. The reserve collection should, however, be periodically checked and the disintegrating material separated from the rest and sent for preservation according to necessity. Easy accessibility, good lighting, freedom from dust, and fire-prevention are some other requirements of a good museum storage.

Museum objects can also be damaged due to factors that are purely physical in nature, like accidents, carelessness in handling and bad packing in transit. Curators can easily avert such damages by taking certain fundamental precautions. When moving heavy objects like sculptures or big framed paintings, or wooden objects from one place to another it should be ensured that a sufficient number of hands are supporting it. It is better to have a four-wheel trolley with a padded platform. In fact, objects should be moved or handled as infrequently as possible. Cleaning of objects should always be done with soft brushes and slapping them with rough cloth should not be allowed.
While transporting art objects from one place to another, the container should be of plywood of suitable thickness, reinforced by wooden batons or iron straps. The interior should be lined with waterproof paper or polythene film, to render the interior watertight. If this object is too fragile, the case can be floated in a bigger case to avoid vibrations and shocks. It is necessary to provide blankets, foam-rubber-pads or corrugated cardboard sheets for the safety of the objects.

If the above-mentioned precautions are taken by the curators, the preservation of museum objects can go a long way and life of these objects can be lengthened greatly.
Museum Thefts, How To Prevent Them

The latest victim is Chandigarh museum. Before that the Maharaja Jaipur Museum and the Prince of Wales Museum, Bombay, still earlier it was the National Museum, New Delhi. Hardly any week passes without the news of thefts of art objects from either a museum or a temple. It is high time we should give it a serious thinking and preventive measures are taken immediately.

Post-independence revival of arts and developing international contacts between museum personnel have helped the museum growth in India. But at the same time these factors have increased the chances of thefts also by making people more art conscious. Only a few years back they did not realise the worth of their art heritage, but now even the dwellers in remote villages (particularly those living in the vicinity of archaeological sites) know how very valuable these are and the result is that so very often we read that such and such image has been beheaded or such and such idol has been stolen from a temple. Such thefts are not limited to the archaeological sites or temples only. The museums are also becoming their victims. A few years back, the Nalanda Museum was burglarised and some masterpieces of bronze sculptures were stolen. Recently the Madhya Pradesh Government Museum at Raipur became the target and three superb pieces of Sirpur bronzes have been taken away. Even the National Museum has not been spared, though luckily, nothing of art and archaeological value was stolen.

All these facts make one think as to where these stolen pieces disappear. The answer is obvious enough and if some-
one wants to find these pieces, he has only to search the art markets of London, Paris and most of all New York. Indian art, which was hardly appreciated in the West about twenty years ago, has become very popular in the recent past. A number of important exhibitions have contributed to this end. Not only the museums, but even private art collectors are buying Indian art and offer fantastic prices. We do not mean to put blame on the buyers; they acquire them from art dealers without realising that these are stolen pieces. We hardly need to narrate how these Indian art dealers acquire most of the art objects they are selling.

The question, therefore, arises as to what steps should be taken to prevent such thefts in our museums? We cannot even think of T.V. cameras or electric-alarms as they are quite expensive and beyond the means of most Indian museums but if the museums can afford them, they certainly are effective. We have to think of only such measures as are practicable and within our limited financial resources and at the same time effective also.

When we think of museum security, the first thing which comes to our mind is the museum building. As far as possible, there should be only one entrance and exit, which should be well guarded all the time. Near the entrance, there should be a cloakroom in which visitors may keep or, rather should be required to keep, their bags, portfolios or any such thing which can conceal art objects. Even otherwise also this is a convenience for the museum visitor, who feels free and light to roam about unencumbered in the galleries. The other point of danger in a museum building are its windows. The ground floor windows should have iron grills, which should be opened in the day time and hidden behind curtains. If the building is more than one-storied windows on other floors can be fitted with glass only to filter light yet at the same time nothing can pass through them. If we are not wrong, almost all the Indian museums are situated in towns or cities which have electricity, and it will certainly prove safer if the building is flood-lit in the night. At least valuable pieces ought to be lighted.

Planning of the galleries should be so arranged as to have more precious objects in the centrally situated galleries.
Precious objects other than those on display should be kept in a strong room, where it is available, otherwise in Godrej safes. Certain museums have arrangements with Govt. Treasuries also for keeping such precious items. If the building is more than one-storied the heavy stone sculptures should be displayed on the ground floor and other items on the rest of the floors. Special care should be taken of the objects which have metallic or jewel value, i.e. coins and jewellery. If funds permit, additional grills or safety glass should be fitted in such galleries. Except the sculptures and other heavy things, nothing should be left open. As far as possible, things should be behind glass, which is good for preservation also. If funds are limited, objects can be roped either by an iron chain or by a simple rope.

Next to the building, but important from the security point of view, are the museum guards and watchmen. These must be chosen with the greatest care and be thoroughly reliable in every respect. Ex-servicemen or retired policemen are most suited to this job being already accustomed to discipline. "They should be men of good manners, trained to deal firmly yet politely with the public and able to answer the general questions put to them." Much depends on these men. They should not be allowed to read books or gossip in groups inside the galleries. This is something most unwarranted and must be improved upon, perhaps, by decreasing their duty hours or relieving them after every two hours. Another very important thing in this respect is occasional visits by the supervisory staff members so that guards keep alert.

Similarly, night watchmen, if possible armed, are also very essential for museum security. To ensure efficient patrolling of the building, time clocks can be fitted at strategic points, so that the watchman must pass through those points during each shift, the visits to the clocking points being recorded on paper dials which can be inspected subsequently by the curator or any other officer. In some of the State museums, police escorts are provided by the State Governments, which is also very practical and has its psychological effect also. Wherever telephones are available additional security can be achieved by arranging for telephone calls to be made from time to time.
between the museum and the local police headquarters.

Most of these measures are well known but what matters is that they are firmly implemented. Besides these above-mentioned steps, another aspect of museum security is: registration and documentation. Each and every object of the collection should be fully described in Accession Registers, giving its dimensions and condition, etc. It has often been discovered that when an object has been stolen, its complete description and sizes could not be provided to the police and other concerned persons. Of course, the ideal thing would be to have photographs of every object, but seeing the cost of photo-material, it does not seem practical. Even then it is essential that outstanding pieces should be photographed. Another alternative to the photograph is a sketch, which can be drawn by museum artists. If the museum is small and does not have its own photographer, we are sure, help can be obtained from bigger sister institutions or by commercial photographers.

In the event of theft, the first and foremost thing is to inform all the museums in India as well as abroad. Most of such thefts are committed by persons who are in the know of things and want to pass them on to foreign museums, knowing the dangers of selling these to museums in India. So, the best thing will be to approach the Museums Association of India, which should circulate the news among all its member institutions and also abroad. Museums outside India can be informed through ICOM. An indirect advantage of this step will be that stolen pieces will not have much of foreign market, certainly not among foreign museums; and this should ultimately discourage the persons from stealing art objects from our Indian museums. Further, all those Indian museum persons who go abroad should keep their eyes open for any such object which has been missing from our museums and should immediately report to the Museums Association of India if any stolen thing comes to their notice.

Some other aspects of the museum security are the storage, gate-pass system and periodical physical verification. Approach to the reserve collections should be strictly restricted to trusted persons and scholars only. Similarly verification of collection every third or fourth year is also very helpful.
This is so because many a time thefts from reserve collections are not discovered for many years. Verification also gives a chance to check up their condition and if objects need treatment, they can be sent to the chemical laboratory. There should be only one gate-pass issuing authority in a museum, of course, in his absence some alternate arrangement should be made. If it is an art object which is going out of the premises, it should be checked by some curatorial staff member at the gate and not by an uneducated guard. If the museum is small, such elaborate arrangements may not be necessary for a gate-pass.

If these measures are earnestly taken up, we are sure, the chances of thefts in our museums can be minimised.
Museum Storage

Museums all over the world are now accepting the policy of showing only a representative collection in their galleries. New museums as well as old established museums use an opportunity of reorganising existing gallery to sort out its collections and weed out the variations of the same type of specimens. "Show less but show well" is now an accepted situation.

But this does not mean that museums should not increase their collections. Museums have to go on collecting, it is one of their primary functions. Collections are needed not only for exhibiting in the galleries but are also essential for purposes of research and pursuit of knowledge.

This situation of collecting a number of specimens and showing only a small percentage in the galleries leads to the problem of museum storage. Certainly museum storage is not the kind of storage used by the house-keepers like the attics where the obsolete and useless objects are just dumped; or like the dust-laden foul smelling "Bhandar" of the palaces or it is not even like the systematically stacked piles of identical objects in a warehouse. Museum storage is not for disposing of the useless items but for preserving the treasures of rare and valuable objects and specimens which cannot be replaced easily. The objects which do not find a permanent place in the galleries must find a safe and sheltered place in the store. It is essential to see that the storage places are properly lighted, well ventilated and adequately guarded, where the objects can be well preserved and safeguarded against deterioration, decay or damage. In short the museum storage is a safe place for the objects where they are equally
cared for as they are in the galleries.

Storage should be easily accessible to the museum staff concerned and should utilise structurally well built, damp-free areas of museum building which has adequate provision for lighting, ventilation or air-conditioning. For the safety and preservation of the objects the first requirement is that the objects should be in their appointed places for inventory or study when needed. This also helps in checking up the objects for physical deterioration of the object. Since the museum collection is of valuable, rare and important variety of art-objects or scientific specimens, it is desirable to arrange storage in such a way that any object can be easily seen and located without moving objects in the front of or surrounding the particular object, so that the delicate objects are not handled again and again. For this very reason it is obvious that the museum specimens cannot be piled up on top of one-another but should be placed on a shelf in a single row. The equipment and furniture needed for the museum storage has to be specifically designed and executed as per the requirements of different categories of objects, their sizes and shapes and the climatic conditions needed for their preservation.

**Lighting, Ventilation and Air-conditioning**

Lighting of an exhibition gallery influences the design of a museum building but the same condition does not apply to the museum storages, because lighting is only necessary for finding or locating the objects and carrying out related work but it is not necessary that all the lights should be switched on simultaneously. On the contrary, the objects which suffer from direct artificial light or sunlight should be protected by using only small location or area lights. Moreover it is not necessary that whoever enters the store needs to see all the objects simultaneously so the lighting should be arranged in such a way that only required lights can be switched off or on. But lighting should be adequate so as to clearly see the objects and no accidents take place due to the darkness. It would be advisable to have general lighting for the room and specific lights near the shelves or cupboards for clear visibility of objects.
The storages should be properly ventilated so that portion of the building does not suffer from dampness and the objects do not suffer from stale air and atmosphere. This requirement will again vary from one type of objects to the other types of objects. Even for providing a proper working place for staff members it is necessary to keep the stores well ventilated.

The objects should be well protected from the climatic hazards as they are protected in the galleries. Actually the climatic conditions in the storage must be the same as the climatic conditions in the galleries because it is likely that the objects may move many a time from the storage to the galleries. If the galleries are air-conditioned, the storage also should be air-conditioned so that the objects do not suffer from differing climatic conditions when they are transferred from the stores to the galleries and back to the stores.

Location of the Storages

Though the storage should be easily accessible to the museum staff, the access has to be properly controlled for the safety of the collections. It should be made sure that the visitors do not find their way to the storages without the approval of the authorities. Such a planning would raise the question as to where these should be located? Near the galleries or near the curatorial offices or somewhere else? Should these be in the basement or should these be on the topmost floor of the museum building? If the building is planned as a museum then these could be placed in a convenient location on any floor provided the floors are heavy and would take the necessary extra weight if used for heavy objects. It is also desired that the storages should have an easy and direct access from the entrance for carrying heavy or large articles.

Since the curatorial department concerned have to work with the collections, they should have their offices or workrooms inside the stores or should be attached to the store so they can keep the desirable watch on the same and at the same time it is also convenient for carrying out their work or the research regarding the collections.

Alternatively the storages can also be designed in such a way that the galleries, the storages and the offices could be
linked. If these are arranged as visual storages behind a protective glass front as those of the showcases, these could be made accessible to the curious visitors, if they are interested.

However it is necessary to protect these wherever these are located against theft as well as against fire hazards. A provision of fire and burglar alarms is very essential for storage.

Storage Furniture

Museum specimens vary in size, shape, and weight. The physical condition of the objects is an important consideration for deciding the storage methods. The storage method accepted should not accelerate the deterioration of the physical condition of the objects. Folding of delicate textiles will be harmful so these should be rolled up. Costumes stay better, if hung on a hanger (fig. 49). Manuscripts can be best stored as books on shelves or in shallow drawers. Large paintings should be mounted and framed and then hung on screens, partitions or sliding frames.

Since space available for storage is never sufficient, it is advisable to use the space from floor to ceiling, but while doing this, care must be taken to arrange the delicate collections at easily reachable heights. For reaching top shelves of floor to ceiling units, high stools or ladders will be needed and so it is necessary to save the articles stored on the top shelves from occasional accidents and care must be taken for handling such objects.

For building most of the furnitures, mostly wood and steel are the materials used traditionally. Steel, particularly for shelves, is not suitable as it absorbs heat very easily and is, therefore, harmful to the objects. Wood, particularly treated wood, can be considered the best as it is not so easily affected by high temperatures, or by the difference in the extreme temperatures. Wood work can also be easily maintained and is available in all parts of our country.

Shelving can be easily constructed and can serve the need of many types of objects. Of course it is necessary to sort out the objects and specimens of the same height and depth so that the shelves can be fully utilised.
If the storages can be air-conditioned, it will be advisable to adapt open shelving so that objects can be arranged as books are arranged in a library. In the absence of air-conditioning, the shelves should be arranged inside a cabinet with door.

For small objects trays which can be arranged on a shelf of a cabinet are most satisfactory. Coins can be stored on a tray with individual grooves for each coin. Such trays can be fitted into a cabinet. Drawers of desired depths can also be considered adequate for small objects, drawings and paintings.

Mounted and framed paintings can be hung on sliding frames or stationary partitions.

Textiles and carpets should be rolled on rollers for their better preservation rather than just hanging them on the frames or on walls (figs. 46 & 47).

Miniature paintings can also be stored in shallow boxes after mounting the same in a double mount, so that the paintings do not rub with one-another though piled on top of each other. But care should be taken to keep only a few paintings in the box. Then these boxes could be stored in a cabinet in such a way that any box can be removed without disturbing others (figs. 42 & 43).

Arms like guns or swords can also be individually stored in specially designed racks which have grooves for keeping each one separately (fig. 50).

It is impossible to list all varieties of specimen and the kind of storage they would need but the main principles of keeping objects separately either on racks, shelves, hangers, frames, screens, drawers are applicable to most of these varieties.
FUTURE ROLE OF MUSEUMS
The Future Role of Museums in India

Introduction
India of today is changing fast. The change is visible in every aspect of our life. What was true yesterday is no longer fit today and whatever is valued today, may not be so tomorrow. The pace of change, which has been rather slow till now, is getting momentum and in order to keep up with these changes, the museums, too, have to change accordingly. It is high time that a serious thinking is given to chalk out a constructive and dynamic programme for future role of Indian museums.

Main Problems
A glance at the history of Indian museum movement makes it clear that although some of the early museums were established by the efforts of societies, later on it was left to the government to open or run new museums. Presently, there are very few museums which owe their existence to private individuals or societies and even these, directly or indirectly, are supported by the Government. This is not a very healthy trend. The public inactivity in establishing museum results in their apathy towards its activities. In the United States, where the museums are so very active and public participation is much more than in India, many active museums are run on private support only. Government aids, though bring finances for running the museums, are always attached with many “ifs” and “nots” which make it difficult to run the museums properly and delay the decision making. Active public support
and participation is badly lacking in our museums.

Post-independence developments in museums show that some museums were opened by the princely section of the society. The 'Maharajas museums', as they are called, were opened by former rulers of the Indian states. Most of these are housed in old palaces and some others in new buildings. It was a very healthy trend in our museum movement. But a recent government notification, which abolished the privy purses of princes, has put a stop on the opening of such museums. Even if the earlier ones continue, they may not remain active because of lack of funds. In fact, disappearance of Maharajas as a class from the Indian society has been rather fatal for the local arts and crafts. These have been the casualty of increasing mechanisation. The museums can play an active role in stopping this rot.

From agricultural to industrial society is a long journey. Ours has been an agriculturist society for thousands of years. Presently, we are in the midst of a transition which has been rather long and frustrating, although changes have now begun to show their sign. However, one of the major changes this so-called industrial development has brought is the rush towards cities. Every literate and semi-literate in the village is running towards the cities, adding to their already overgrown population and thus multiplying the problems of city life. Most of the Indian cities are ill-equipped to handle this explosion. They lack in basic civic amenities. We have to see what role the museums can play in this aspect of our changing society to lessen the tensions and to make life more charming.

At the same time attention has also to be paid towards the villages. So far there is hardly any museum which caters to the needs of the village dwellers. This is a big paradox. Most of our population live in villages. It is high time museum authorities should devote special attention to the villages and countryside which need different types of museums than the cities. These should be given priority in future development plans.

Post-independence development saw emergence of a new problem, that of national integration. Once the Union Go-
vernment agreed to the formula of linguistic states, there was no end to it. Almost every year the country has been divided and sub-divided on the linguistic basis and the problem still remains where it was. More people are clamouring for linguistic states. The result is devastating for the country's unity. We have to examine as to what role the museums can play to solve or to minimise this problem.

Another front, where our museums can play a very important role, is that of the science and technology. For example with many dams and electricity generation centres, electricity has reached the villages, at least in some parts of India. But the village folk are still completely ignorant of its uses and abuses. Our future programme should be such which should lay stress on opening such museums in greater number.

There is yet another problem with our museums. Obsessed by the idea of antique and always searching for objects thousands of years old, they have completely neglected our immediate past. Things which originated in the last two or three centuries are not cared for. The galleries showing Indian sculptures and bronzes abruptly end at Vijayanagar period, i.e. 15th century A.D. Similarly Indian painting galleries show things upto Kangra or Chamba school only, i.e. 18th century A.D. This gives an impression that art activities in these fields stopped after the periods mentioned above. It is time that we should start collecting and exhibiting art objects of preceding centuries before it is too late to even find them.

World art is another field which has been so far neglected in our museums. This has resulted in a very narrow outlook of most of our scholars and students. They try to find out Indian influence in the art of other countries but are not ready to accept influences of other arts on the art of our country. There are only few museums—Salarjung Museum at Hyderabad; Prince of Wales Museum at Bombay; Indian Museum at Calcutta and Baroda Museum and Picture Gallery at Baroda, which have examples of foreign art. We must chalk out a programme by which our museums could be benefited with the examples of art of other countries.

Improvements in social and economic fronts have resulted in many changes which were unforeseen earlier. Not only
the dresses of the people have changed but their social customs have also changed. To take an example, even in villages, one finds people putting on terelene clothes and carrying transistors in their hands. This has affected village washermen and others. We do not find people sitting around fire playing 'dholak' and singing folk songs, instead they listen to their transistors sitting at home. The village-goldsmith is also out of employment because of 'Gold Control Act'. These are only a few of the vast changing patterns of the society. All such things which are going out of use in dress, ornaments or otherwise, should be collected and documented by Ethnography museums, which need to be opened in every part of the country.

India is quite rich in natural resources. The country has a network of rivers which are being harnessed to produce electricity. Our mines are also producing all sorts of minerals. But there is hardly any museum which has exhibited these objects to emphasise the need to conserve these resources, to make people conscious of the vast heritage provided by nature. Our future programme should include more and more of Natural History museums.

Despite the fact that we have been independent for over two decades and have made strides in many fields, our people still lack 'museum-mindedness'. Museums are still supposed to be the exclusive right of only a few people, the rich and the students. We have to struggle hard, to change this outlook. If the museums have to stay as an active part of our society, they have to play a more dynamic role. The future programme should be so oriented that it could create 'museum-mindedness' in the people.

**Future Programme**

No formula can hold good for all types of museums. In fact, one has to evolve different formulas for different regions even for one category of museums. While making any such programme the total circumstances—buildings, funds, personnel and above all local community, have to be taken into consideration. When we chalk out a future programme, it is better to deal with each category of museums separately
and for this purpose let us divide the museums in the following categories:—

A. Programme for rural museums
B. Programme for urban museums
   These can be further grouped as:

A. Rural Museums
   1. Agricultural museums
   2. Local art-craft and archaeology museums
   3. Mobile science and technology museums
   4. Local natural history museums
   5. Personalia museums

B. Urban Museums
   1. Art and archaeology museums
   2. Science and technology museums
   3. Ethnography museums
   4. Personalia museums
   5. Natural history museums
   6. Book museums
   7. Philatelic museums
   8. Defence museums
   9. Health and hygiene museums
  10. Children’s museums

A. Rural Museums

Village museums do not exit in India. It is a matter of deep regret that a country whose major population still live in the villages has no village museums. In the olden days the village temples used to serve as a community centre where everybody gathered, exchanged ideas, showed each other art and craft objects made by them—and thus kept in touch with each others. The best thing was always reserved for the God i.e. the temple. There used to be recitations of Ramayana and other epics in which everybody participated.

It is no longer true now. The village farmer has to work harder than before for livelihood. Machines are making their appearance in the villages but not everybody can own them. The result is that only a few farmers have machines and others
have to compete with them by working for longer hours. This hardly leaves any time to go to village temple or to participate in community activities. Transistor boom also keeps them aloof. The following programme involving least of expenditure is, however, bound to bring improvements. If the farmers know that a visit to museum will be rewarding, they will certainly make it a habit to go to museums.

(1) Agricultural Museums

Almost every village has a ‘Panchayat Ghar’ or a community centre. A mobile agricultural museum should hold practical demonstrations at these centres showing the uses of the machines, fertilizers, better grains and of putting the land to maximum yield. It should also hold competitions for the best yield and prize-winning objects should be kept in the ‘Panchayat Ghar’ after being suitably rewarded. Most outstanding products should be taken round to other neighbouring villages. This should encourage them for a healthy competition and should ultimately result in more yield of grains and vegetables etc.

(2) Art and Archaeology Museums in Schools

One of the main reasons of the archaeological heritage of our country being plundered and smuggled out of the country is the ignorance of our people about the importance of such material. It is needed that every high school or middle school should have a local history-room or museum. The history teacher should tell the boys about the importance of our heritage, should occasionally visit neighbouring places and bring together archaeological material lying uncared for. The boys should be told about the coins found in chance digging and should be asked to bring such finds to the school museums, where their names should be properly displayed with the exhibits. Once these boys are properly educated about the importance of archaeological material, their parents are bound to be conscious of the same and it can be saved from the plunder.

The other casualty of modern age are our crafts. These are dying fast. Neither the people have time to devote to these
nor have they any incentive. The basketry, pottery, woodwork etc. are being replaced by machine-made plastic and other items which seem to have caught the fancy of the village folk. To check this rot we have to start with schools again. These crafts should be taught to the children and annual competitions organised in which local people should also be allowed to join. Prize-winning entries should be displayed in school museums along with the names of their makers to give incentive to others to follow suit.

(3) **Mobile Science and Technology Museums**

As science and technology museums are expensive to establish and equipment is hard to find, it is suggested that mobile units, like the one established by B.I.T.M., Calcutta, be formed to cater to a group of villages. These should have basic model exhibits; electricity, water resources, power, mineral and other natural resources, motors, locomotives etc. More and more schools, especially in rural areas, should have scientific subjects on their curriculum to initiate the children in science. There should be annual competitions among the boys about the scientific inventions and best exhibits should be displayed in school museums. Mobile science museum should pay visits to all schools of the locality and should depute guides who could explain in local dialects. The labels should be made in simple words so as they could be easily understood.

(4) **Local Natural History Museums**

Village schools can again be made centre for opening such a museum or the ‘Panchayat Ghar’ can be provided with some glass almirah or showcases. Children should be told about the birds they see fluttering around and such birds, after stuffing, should be kept in the museum. The local soil samples should be kept in the bottles and students explained about these. If any mineral is found in the neighbourhood, that should also be kept in the museum. Samples of stones, botanical specimens etc. should also find a place in the museum. Children should be told about the flowers which are blooming around and as such should be taught to appreciate the natural
surroundings they are living in.

(5) Personalia Museums in Schools

A little imagination on the part of history teacher is sure to imbibe the children with ideals followed by great men. The history-room, which almost every school has, can serve as personalia museum. The teacher should select a historical personality at the beginning of each session and order his students to prepare charts, collect photographs and books on that leader from all sources. For instance Akbar or Ashok or even a recent leader like Gandhiji can form a very good theme. In the case of Akbar, the teacher can allot his life-sketch to one boy, his religious thoughts to another, his wars to third and his building-activity to yet another student. The courtiers of Akbar, Akbar’s princes, Akbar’s queens etc. can be other topics. By a given date, when everybody has given these details by way of charts, these could be hung on walls along with some photographs of paintings done during his life-time, and also of buildings built by him. If the school is situated near Agra, the children should be taken around Agra and Fatehpur Sikri to show them the life led by the Great Mughal ruler Akbar. This can be done with other national or international leaders also and is bound to affect the children. If standing in the midst of Fatehpur Sikri monuments, they are told of the catholicity of Akbar, they are bound to be better citizens. All these proposals are least expensive and could be attempted at any school throughout the country. If there is some local leader, some personal effects of the hero could also be obtained and displayed to make it more effective. The theme can be changed every year or twice in a year.

Thus, it will be seen that all these proposals for village museums are most practical and can be completed with minimum finances. What is really needed is a devoted soul who believes in these programmes and these are sure to bring results and determine the future role of museums in India.

B. Urban Museums

The future of urban museums in India is very bright. Firstly, because the big cities, unlike villages, already have
museums and secondly because some of the civic bodies, municipal boards, have shown keen interest in museum development. The Allahabad and Ahmedabad Museums, run by municipal boards, rank among some of the best museums in the country. A campaign is, however, needed to persuade other civic bodies to open similar museums in other cities.

**Industrialists’ Support**

As already explained in the beginning, so far the Indian museum movement has been the sole concern of the Government. Active public support is badly needed. At least the rich industrialists, who can well afford opening and running museums, should take lead in this respect. In fact, the Birlas have already opened such a museum in Calcutta and are opening in other cities also. It is a well-known fact that almost all the wealthy persons have made collections of the art objects after the ‘Gold Control Act’. They found the art objects as the safest investment. To mention a few of these, the Kanorias, the Goenkas, the Lalbhais, the Rams (D.C.M. proprietors), the Singhis, the Singhaniyas, Tatas and Birlas have built rich collections of art objects. They should be persuaded to put these in museums. Wherever there is already a museum, things should be given to that or a new museum opened. Art, after all, is a common heritage of a nation and not an exclusive right of a selected few only. It is a matter of disgrace that a big city like Kanpur has no museum at all whereas a big collection is lying with Singhania who owns Kanpur industries. It is high time it should be shared with public.

**Tax Relief**

To give incentive to these industrialists to open museums, the government should seriously consider of giving them some tax relief. Indian citizens, like the citizens of the United States, should be allowed to get exemption of tax on gifts given to museums. This is bound to have important results. Even those people who have small collections will in that case be eager to donate to local museums to perpetuate the memory of
their beloved. The museums should make it a policy to display names of the benefactors along with the objects donated by them. This will encourage others to donate their things.

*Museum Friends Societies*

The Bombay community has taken lead by establishing a museum friends society. Such friends of museums are a common factor in every U.S. city. This gives the community a chance to share burden of the museum officials and activate private support to benefit the museum. Ladies are always in forefront in such organisations. With the increasing facilities of gas and electricity, the Indian housewives now have ample time at their disposal, which could easily be utilised for such voluntary organisations. The office-bearers of such societies have the satisfaction of being part of the museum and a sense of responsibility develops in them.

*Personal Acquaintance between Museum Curators*

Public and Government supports are most essential, but equally important is the factor of personal friendship or acquaintance between museum curators. It helps taking quick decisions and expedite the matters. In research also acquaintance can be of great help. Curators can exchange notes with each other and supplement research.

Such personal knowledge will give way to exchange of objects between museums to fill up lacunas and to broaden the scope of collections in different museums. Such exchange of ideas and objects will herald a new era in the Indian museum movement.

*Museum Exchanges*

Museum exchanges should be encouraged not only between museums in India but also between the museums from other countries. This is the only legitimate way of building world art collections in Indian museums. At least the museums of national importance should have something from other countries also. For instance, the art of Nepal, Ceylon, Afghanistan etc. is closely allied to the art of India. It is not only pertinent but essential to understand these arts to fully
grasp the spirit of Indian art and vice versa. Similarly the art of West should also be brought by exchange to our museums to make them comprehensive so that our future citizens are able to appreciate what Dr. Radhakrishnan said while inaugurating the National Museum, “If you have art objects, sculptures, paintings of other countries of the world, you will see how fundamentally akin the human mind is.”

Museum as Source of National Integration and Secularism

Scholars of West have always labelled Indian art as solely ‘religious’ in its spirit. However, it is not the whole truth. Although religion has been the prime motivating factor of Indian art, other factors have also contributed to its growth. There are a number of pieces which are secular in nature. Not only that, art history shows how tolerant our rulers have been in the past. We have examples of Hindu kings patronising Buddhists and Jains and vice versa. In many cases temples of different faiths have stood side by side for centuries. Such factors should be emphasised in museums and if possible temporary exhibitions of photographs should also be arranged from time to time so that there is communal harmony in our society.

Equally important is the factor of national integration, which can be emphasised by our museums. Museums should show that same Ram, Krishna and Siva are worshipped from Kashmir to Kanya Kumari. To emphasise this unity it is advised that there should be a greater flow of objects from one region to another—the Srinagar Museum should exhibit Chola bronzes and Madras Museum, the Kashmir bronzes, which is possible by exchange between the two museums. The finds of Brahmi inscriptions in South shows that perhaps once the whole of India had one official script. Such common factors can well be theme of exhibitions which can play very important role in the presentday circumstances.

Having considered these factors, let us now assess the future needs of different categories of city museums for reactivating them and making them dynamic institutions—to be able to play an important role in the future Indian society.
(1) Art and Archaeology Museums

Most of the big Indian cities, state capitals and industrial towns, have museums of art and archaeology. However, with the exception of a few big museums, most of these present only a partial view of our vast and varied art heritage which is scattered all over the country. The need of the day, as emphasised earlier, is to liberally exchange objects with each other and also to have travelling exhibitions visiting various museums.

Another very important thing, which the archaeological museums have been neglecting so far, is acquisition of objects by explorations done in collaboration with the Archaeological Survey. This will have double benefits—good and authentic sculptures will come to museums and their vandalism by unauthorised persons will be stopped. From research point of view also this will be helpful as the provenance of objects will be known.

Universities, which have ancient history, archaeology or art history departments, should also have such museums or should have arrangements with local museums to borrow exhibits for teaching purposes. This is most essential for proper grounding in these subjects.

(2) Science and Technology Museums

Science and technology museums are the need of the day. The working exhibits in such museums popularise the museum institution more than any other effort. In our programme for industrialisation and mechanisation, the government ought to open a few more museums of this kind.

To minimise the expenditure on the part of the government, such museums ought to seek cooperation of various mills and industrial houses. The private sector should be encouraged to install machines being produced by them. This will give added publicity to the mills and new exhibits to the museums. Museums in Japan and the United States are already adding exhibits in this way.

Such museums should also have mobile units attached with them which should tour neighbouring cities to popularise
scientific knowledge to a bigger section of the community, as is already being done by the B.I.T.M. in Calcutta.

(3) *Ethnography or Anthropology Museums*

As emphasised earlier anthropology museums ought to be opened in larger numbers. Where it is not possible to open separate museums, anthropology should form section of already existing museums. Fast changing modes of our society are destroying local crafts which are being replaced by the plastic things. Giving up their local dresses of centuries old, people are adopting coat-pants and skirts. Social customs and religious practices are also changing. Only timely action can save anthropological specimens from being eaten by ants lying in some corner of the huts. The museums should send their curators to every nook and corner of the country to collect exhibits and to record all possible data about them. In many cases these exhibits could be acquired free or for a very nominal charge, which means that such ethnographical galleries can be opened on very nominal expenses and should be within the reach of every community. These museums should occasionally hold practical demonstrations of making objects, dance recitals etc.

(4) *Personalia Museums*

Personalia museums are a post-independence development. There are several Gandhi museums, Nehru Museum, Netaji Museum, Ravindra Sangrahalya and many more. Such museums are proving very popular with the masses and could be effectively used in propagating ideals of great men. The message of secularism, non-violence and national integration could be easily conveyed to the masses through such museums.

(5) *Natural History Museums*

Only very few museums in India have natural history sections although the general term still being used for museums is 'murdha ajaibghar'. As a matter of fact stuffed animals and birds, botanical and geological specimens etc. seem to be quite popular with people. In a vast country like ours, natural history sections can be very educative in-
forming people about other parts of India. Materials in such sections of museums could be used with advantage for teaching purposes.

(6) Book Museums

So far there is no book museum in India and it is high time such institutions are established for the benefit of those in the printing industry and also for general public. Such a museum should exhibit methods of printing, how the printing started, what are the latest methods of printing books and good as well as bad examples of books. With the increase in literacy in our country, more and more books are being printed every year and it is in this context that a book museum, or a book section in already existing museums, can play a vital role in improving standard of our printed books.

(7) Philatelic Museums

Presently there is only one such museum in the country, in Delhi and even that is not open all days of the week. Interest in postal stamps is again a post-independence phenomenon. Earlier we were having stereotyped stamps with no aesthetic appeal whatsoever. It is only recently that our stamps have become not only much more colourful but aesthetically also quite appealing. Collecting postal stamps of different countries is a very common hobby with children and it is but natural that if opened such sections are bound to become very popular with people. Such sections in museums should trace early history of means of communication and should educate the people about current methods and future developments.

(8) Defence Museums

Defence of our motherland is the concern of every citizen of India. How advanced our defence preparedness is, is a matter which infuses self-confidence in all of us. Since 1962 Chinese debacle, there has been a change in the general outlook about war in this country and a comprehensive defence museum is bound to arouse an abiding interest among people. Even at present, people are evincing a very keen interest in such exhibitions as could be testified by the large crowds visiting
‘Meet the Challenge’ exhibition at the L.I.C. grounds in Delhi. Presently, there is one defence museum at Kharagavasla and another at Dehradun. Both these cater to the needs of student trainees at these two centres and as such their scope is rather limited. One more museum, at Red Fort Delhi, falls in this category but here again the scope is limited to war memorial exhibits. Future needs demand that all the three museums should be enlarged and a few others opened in various parts of India. These defence museums should present a panorama of the development of war machine, of the deadly weapons from the stone-age onwards as also the development of Indian military strategy through the ages. To make the Indian citizens more conscious about the country’s defence should be the aim of these defence museums.

(9) Health and Hygiene Museums

Most of our cities suffer from unplanned growth which has often resulted in their being dirty and unhygienic. But a bigger cause of this uncleanness is the carelessness of our own people. To educate people about these problems it is necessary that city administration should open mobile units of health museums. These should visit various localities and apprise the people about the dangers of uncleanness and how to prevent it. Children should be vaccinated against different diseases and explained the rules of primary hygiene so that they could make better citizens.

Yet another role which the future demands the Indian museums to play is the education about family planning. As an active organ of the society, the museums ought to take up this responsibility. The health museums should explain the dangers of abortions by untrained medical persons and should recommend the various other methods of family planning. Wherever possible this can be supplemented by filmshows etc. Whatever be the problem, the museum can always play an active role to eradicate it.

(10) Children’s Museums

Children are the citizens of the future and hence it is necessary that more attention should be paid to them. Small
museums exhibiting basic things of science and archaeology should be opened where the children could see things closely and if possible also participate in their functioning. Big museums should have children’s sections where labels should be such which could be understood by the young ones. If possible the museums should have workshops attached to them where the children can work independently and create works of art and science.

**Educational Use of the Museums**

The progress of education everywhere, its broadening beyond the academic pattern depending on the written word, to include learning by other means, especially visual, hastened to recognition of the importance of all types of museums. The future demands that all these different categories of museums should be put to the maximum educational use. Each of the big museums, of the National and State museum level, should have an education officer to plan such uses. More and more children, students and other citizens should be invited to visit museums. It should be remembered that museums are art or science institutions with educational aims.

**CONCLUSION**

The above discussions make it clear that the future role of museums will not be limited to only preserving, collecting and exhibiting but making them a living organ of the society participating in each and every problem. It is hoped that the public will then take a keen interest in the affairs of museums, they will make donations and open new museums which will be the centres of community activity. It is further hoped that more and more museums will be opened in the villages and their future importance will be the same as that of temples in the ancient days. Museums are suited by the very nature of their functions to perform this kind of work. In this age of Jumbo jets, where fashions travel fast, the universality would have no meaning but for the traditions peculiar to each region. Our lives need variety and museum will, it is hoped, help in preserving and maintaining these original features, only then it will justify its name of the ‘temple of muses’.

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The Maharajas’ Museums—
A New Chapter In The
Indian Museum Movement

The history of Indian museum movement can be broadly classified into three periods:
(1) 1814 to 1902, from the establishment of the Indian Museum, Calcutta to the coming of Lord Curzon.
(2) 1902 to 1946, from Lord Curzon’s time to the end of British rule in India.
(2) 1947 onwards, from the dawn of independence to this date.

Each of these periods had its own distinctive features. The most significant development of the post-independence period is the growing concern on the part of public, that is, agencies other than the government, towards museum growth. The trend is reflected in the opening of several Maharajas’ museums during this period. The present study aims at analysing the circumstances which led to the opening of this new vista in the realm of public interest, and also to give a brief account of some of these prominent museums.

Stories about Maharajas and their fabulous wealth have been prevalent for centuries. The very word ‘Maharaja’ stands for one who owns several elephants, palaces, gems and what not. Each of these Maharajas had his own pastime and hobbies, most popular of these being hunting and thus almost every palace has been full of hunting trophies hung on palace walls or spread on floors of royal rooms. Some of these Maharajas had other hobbies like getting royal copies of
Ramayana and Mahabharata prepared by court-artists, or collecting furniture or also gathering things of foreign origin. Besides, almost all these Maharajas had armouries (Silahkhānā) and royal stores (Toshakhānā) of their own. Thus, one can see that actually the Maharajas had the nucleus of a museum in their palace itself and it was only the matter of opening it to public exhibition. The palaces provided ready-made buildings for museums.

Independence and then the creation of the Republic of India brought new changes in its wake in which Maharajas were directly involved. Their states became part of the Indian Union and they were given ‘privy purses’ to maintain themselves. Accustomed as they were to spending money like water, it soon became obvious to them that maintaining themselves with those ‘privy purses’ was not going to be easy. Moreover, they had hardly anything to do, all their functions as rulers having been taken over by the Government. So to keep pace with the changing times, Maharajas decided to open their hereditary royal collections for public. There were other factors—sociological, political and economic—which prompted the Maharajas to open these museums and fostered the growth of the museum movement in the country. An attempt would be made in the following pages to evaluate these factors in order to highlight their individual as well as relative contribution to the growth of Maharajas’ museums.

Sociological Factors

In the heyday of their glory when they were the full-fledged rulers of their states, the Maharajas had several occasions to display their fabulous treasures. They used to hold Durbars marked for their glittering splendours. Most of the prominent Maharajas used to sit on golden thrones amidst their courtiers dressed in ceremonial clothes. Other such regal occasions were Dusshahra festival processions or birthday celebrations. The Maharajas used to sit on elephants’ back on golden or silver howdahs on such gay occasions.

When the states merged in the Indian Union, such occasions were either totally denied or were limited due to expenditure involved. The Maharajas could not bring out their royal
paraphernalia from stores and realised that these will be eaten away by moths and worms if remained in storage. Hence, in order to maintain it properly and to regain their otherwise fading social status, they opened museums. From the point of view of human psychology also, it is but natural for Maharajas to desire for public appreciation of their possessions, which they were deprived of after the accession of their states to the Indian Union.

Political Factors

The Maharajas realised the fact that their survival within the Indian Union depended very much on their ability to carve their own place in the society. Some of them contested elections for state assemblies or Parliament. By opening museums, they hoped to improve their public image as men devoted to public cause. Further, by opening museums, they could still keep their palatial buildings under their control which would have otherwise been transferred to the government. Thus, they found themselves faced with the obligation to effect a prompt switch from a private palace to a public museum.

Economic Factors

With the merger of states in the Indian Union, it became very difficult to maintain the huge retinue they had. Some of the Maharajas donated their elephants to zoos, where they are giving joy-rides to children. But there were so many other things besides the elephants. The best solution for the upkeep of these things as well as the palatial buildings housing them was to open a museum and that is what was done by many Maharajas. This way the maintenance charges for the museum are usually met with the money received from the admission tickets which are quite high in almost all of these museums. For instance, at Jaipur it is Rs. 4.00 per head while at Gwalior it is Rs. 2.50 per head.

Most of these museums are directly controlled by the Maharajas through trusts established to run them. The name of trusts helps in getting government aid for specific projects. Above all these considerations is the fact that public trusts get
some tax-relief which could not have been possible otherwise.

Furthermore, opening of these museums provided the Maharajas with an opportunity to divert some of their old staff-members, all of whom could neither be dismissed nor maintained properly. Quite often family members and relations were given preference to trained museum-personnel while making appointments to such museums.

It would thus appear that the combined impetus of the factors enumerated above led to the opening of the Maharajas’ museums. In this context it may be pertinent to learn something about some of the more prominent of these museums which came into existence during the post-independence period.

**Maharaja Jaipur Museum, Jaipur**

Established in 1959 in the City Palace of Maharaja, this museum can boast of the best collection of the Lahore and Herat carpets of the Mughal period and Mughal miniatures. The royal Mughal manuscripts of Razmanana and Ramayana are its priceless possessions. Commissioned by Akbar, translated by Abul Fazl and illustrated by Royal Mughal painters, these manuscripts have a number of illustrations. The Rajasthani miniatures collection of the Museum is equally important. The manuscripts include the famous Bihari Satsai’s original copy written by Biharidas himself who was a court poet of Jaipur state.

Arms and armour collection of the museum is quite extensive and has some historical weapons also. Similarly, the textile collection has not only some of the choicest Rajasthani examples but Kashmiri shawls, muslins of Dacca and other famous varieties also. Six large size Deccani paintings on cloth are unique examples of their type.

Besides these collections, the museum has also opened Maharaja’s ‘Diwane Khas’ and ‘Am’ and ‘Pitam Nivwas’, which give a peep into royal living of bygone days and serve as a good example of ‘Period-rooms’.

**Maharaja Banaras Vidyamandir Museum, Ramnagar Fort, Varanasi**

Situated at the bank of the sacred Ganga Ramnagar Fort is
a historical monument in itself. Associated with the name of Maharaja Chet Singh, it is worth a visit by any visitor to Varanasi, specially now as it has the added attraction of the museum.

The museum has the best collection of royal howdahs, coaches, palanquins and elephants paraphernalia and one big hall is devoted to this material. One has to climb the stairs to reach the Textile and Decorative Arts gallery, which has some exquisite examples of Banaras brocade, Kashmir shawls and other embroidered and woven fabrics. The same gallery has showcases devoted to huqqas, lamps and other decorative arts.

As one steps down, he enters the Arms and Armour gallery which is quite extensive and shows locally manufactured weapons also. One of its corner is devoted to ivory work which has been done by Banaras court artists.

Next gallery, for which one again climbs stairs, is devoted to a big locally made astrologers’ clock showing date, days, fortnight and positions of stars etc. The adjoining hall shows the Maharaja’s Durbar with all its glittering splendour (fig. 6).

Saraswati Bhavan or the manuscript-library attached to the museum has thousands of well-kept manuscripts including a ‘panchnāmā’ having Goswami Tulsidas’ signatures.

**Maharaja Fateh Singh Museum, Baroda**

The museum set in the midst of the Lakshmi Vilas Palace gardens, consists of sixteen rooms and galleries specially made for the museum purposes and opened to the public in 1961 (fig. 2). This fact gives it a distinctive character as all other such museums are housed in old palaces.

The museum contains copies of Greek, Roman and later European sculptures and of masterpieces of classical European pictorial art, as well as original works by the sculptor Phanindra Nath Bose and by A. Felici, a versatile Italian who for a number of years was court artist at Baroda. There are a number of family portraits also and a great collection of paintings by Ravi Verma. The collection of European paintings include some original old masters but are mostly by artists highly esteemed about turn of the century. The museum has also displayed French furniture and late but good Chinese and
Japanese art collections. The display was arranged by Dr. H. Goetz, a noted museum director and art historian and thus can be proud of being the best displayed museum among the Maharajas’ Museums.

Maharaja Jiwaji Rao Scindia Museum, Gwalior

Presently housed in Jai Vilas Palace, the museum was formally inaugurated on 12th Dec., 1964 by the then President of India, Dr. S. Radhakrishnan. It has twentyfive galleries open to public and a few are expected to be added soon. Besides the Indian collections, the exhibits include things from China, Japan, Iran and European countries.

Notable among the Indian collections are the Yaksha and Yakshi heads of Maurya-Sunga type. The miniature paintings include exhibits of Kangra, Basohli, Malwa and Mughal schools as well as a representative collection of Gwalior school. The swords bearing the names of Mughal rulers Akbar and Aurangzeb and a shield belonging to Bahadur Shah Zafar of Delhi are the pride collections of the museum. Another important exhibit is the original letter of Maharani Lakshmiibai of Jhansi. Other exhibits include palanquins, howdahs, musical instruments, ivories, textiles, wood-carvings, and cut-glass chandeliers, etc.

The Chinese and Japanese arts are represented by Ming plates, Mandarines, Kimonos, porcelain wares and wall hangings, etc. Most of these belong to 18th-19th centuries.

The Persian carpet exhibits include an example which depicts woven portraits of almost all medieval rulers and religious leaders of Western Asia as also those of a few European emperors and the great Maharana Pratap.

The European material comprises furniture of Jacobean, Queen Anne and Victorian styles. A French porcelain table showing Napoleon in the centre encircled by his family members is quite unique of its type.

The Durbar Hall, with all its chandeliers and carpets, also forms a part of the museum. It is hoped that a few more galleries showing coins, jewellery and manuscripts etc. will be soon opened for the public.
Maharaja Udaipur Museum, Udaipur

Latest addition to this group of museums is the one recently set up by Maharana Bhagwat Singh of Udaipur in his ancestral palace at Udaipur. The pride of the museum are 500 historical paintings donated from Maharana's family collections. A few documents of historical importance have also been displayed. Other exhibits include a large collection of arms and armours, royal furniture, dresses worn by Mewar and Mughal rulers and other Durbar paraphernalia.

These are some of the prominent Maharajas' museums opened in the post-independence period. There are many more which were opened in the pre-independence period and later on became Government museums. Among this latter category mention can be made of Baroda Museum, Baroda; Sri Bhavani Museum, Aundh; Central Museum, Jaipur; Ganga Jubilee Museum, Bikaner and others. The Maharajas of Indian States have always been great patrons of art and it is heartening to see that now their personal collections representing glory of Indian and world art can be seen in these museums. It is hoped that more and more such private collections will be thrown open to public.
Some Little Known Indian Museums

We are living in an age of specialisation which seems to be increasing day by day with the advancement of knowledge. It is heartening to note that this trend of specialisation has reached museums also, testifying to the maturity attained by our country's museum movement. In the beginning of this movement, about 200 years ago, most of the museums were general in nature, having many subjects—archaeology, anthropology, zoology, geology, art, crafts, etc. This trend continued up to the middle of the present century and it is only after Independence that specialised museums began to be opened. Such museums usually exhibit a special type of objects and have a special clientele to serve. Perhaps that is why they are little known. Most of these have restricted entry, i.e. they allow entrance only to the persons in their field, as the C.B.I. Museum at New Delhi. Even when open to the public, only persons interested in the field visit them. For instance, the National Philatelic Museum, though open to the public, gets very few visitors as against the National Museum or the Nehru Memorial Museum. Another reason of their being little known is that most of these museums are attached to other bigger institutions and work as their subsidiary units. The Agriculture Museum at Palampur Agricultural University and the Central Public Works Department Museum at New Delhi are two such examples.

Here we will try to acquaint museum people with these little known museums. Whatever information could be gathered from various sources is being put together in the hope that
other colleagues in the field will let us know about many more such examples.

Air Force Museum, Palam, New Delhi

Situated near the International Delhi airport, this museum is housed in one hangar and three halls, surrounded by beautiful gardens. It was opened on the 17th April 1967 and it is surprising that very few visitors to the capital are aware of it. As one walks through the halls one feels elated on seeing the trophies won by our pilots and the progress made by this youngest of our fighting forces. The Indian Air Force was born on April 1st, 1933 and has since been rising from one glory to another.

A visitor to the vast hangar should start with the Wapiti, the very first aircraft of the Indian Air Force. It is followed by various makes like the Lysander, the Tiger Moth Trainer, the Auster trainer, the famous pair—the Hurricane and its Spitfire (which won the Battle of Britain against the Germans), Vampire jets, the later Mystere, Ouragons (or Toofanis), and the famous Indian-made Gnat, which made short shrift of Pakistani planes in the 1965 and 1971 wars.

Besides these Indian planes, those of other countries are also represented. At one corner of the hangar are kept remnants of the Pakistani Sabre Jets shot down by our forces in 1965. A Japanese Kamikaze aircraft (suicidal plane) is the Museum’s prized possession. It is said that Japan made 755 such planes during the last World War. When released at a short distance from the target by the mother-aircraft, the Kamikaze swooped at a speed of 620 miles an hour to the target, destroying it and its own pilot. The famous British battleships, “The Repulse” and the “Prince of Wales” are said to have been destroyed by Kamikaze aircrafts during the last war. A scale model of the latest type of MIG trainers brings us up-to-date about Indian Air Force.

In the same hangar we come across numerous paraphernalia of military aircraft, like gun turrets, guns, parachutes, and plane instruments. Old and new emblems of the Indian Air Force, and the badges of the numerous squadrons decorate the glass shutters of the vast hangar.
The second hall shows a photographic history of our Air Force from the early days in Risalpur to the latest planes etc. acquired by the Air Force.

The last hall contains many of the trophies acquired by the Indian Air Force in our battles with Pakistan and the gifts presented by fraternal airforces. Also kept in the same hall are the Portuguese Armed Forces’ flag and other insignias captured in Goa.

The Everest Museum, Darjeeling

The Himalayan Mountaineering Institute at Darjeeling has played a very important role in our country’s mountaineering. The Institute is situated on the Jawahar Parbat, a hillock outside Darjeeling city. The latest addition to the Institute is the Everest Museum, which houses mementoes of almost all the Everest expeditions since 1921. It was inaugurated in November 1968.

The first thing that attracts a visitor is the photo copy of the first permission granted by the then Dalai Lama to the 1921 British Reconnaissance Everest Expedition. The letter addressed to the “Dzonqpons and Headmen of Phari, Tinki, Kampa and Kharta” required them “to bear in mind that a party of Sahibs are coming to see the Chomo Lungma mountain and that they will evince great friendship towards the Tibetans.”

A group of exhibits show the development of mountaineering equipment. The now-obsolete leg putties used by N.E. Odell in 1924 distinctly contrast with the more sophisticated, wind-proof nylon trousers, with electrically heated socks, used by Lt. Col. N. Kumar in 1965, after he lost his toes earlier due to frost-bite. The boots used by Ramond Lambert in the unfortunate 1952 expedition are also displayed in the Museum. Another amusing exhibit is an empty leather case that protected Edmond Hillary’s camera, which photographed Tenzing Norgay’s first ever ascent of Everest in 1958.

A piece of rock, picked up by the double Everest hero Nawang Gombü from the summit of Everest, forms an interesting exhibit. This was specially flown to Japan to adorn the Indian Pavilion at Expo ’70.

No Everest Museum could be complete without mention of
the elusive abominable snowman. The Museum exhibits a photograph taken at Pangboche Monastery, which is situated at an altitude of 14,000 feet, and is the last village on the way to Everest. It is claimed that the scalp and hands preserved by the Monastery constitute the only convincing tangible proof of the existence of the controversial Yeti.

National Buildings Organisation Display Centre,  
Nirman Bhavan, New Delhi

Quite different from all other institutions described here is the Display Centre. Although not so named, it is really a museum. Here the exhibits do not belong to the institution but to the different producing firms, who not only lend their exhibits, but pay for their proper exhibition according to the space occupied by them. However, it aims to educate people about different building materials, where and how they can be used, how minimum space can be put to maximum use, etc. In this process it not only benefits the visitors but the producers as well. This immediate practical utility distinguishes it from all other institutions.

The Display Centre is part of the National Buildings Organisation, which, in its turn, is attached to the Ministry of Works, Housing and Urban Development. The museum is located in a double-story building attached to the Nirman Bhawan, and has a colourful mural on its facade. It is open on all working days and admission is free.

The exhibits on the ground-floor include plastic, glass, timber and sanitary products, etc. The first-floor has hardware, doors, windows, paints, concrete, cement, tiles, electric goods and appliances, and other miscellaneous products. All these exhibits have been displayed in a tasteful manner and for any person who is planning to construct a house, a visit to this Museum can be most rewarding.

Museums of History of Medicine and of Medical Research,  
Tughlaqabad, New Delhi

The museums, part of the Institute of History of Medicine & Medical Research, have been established with a three-fold purpose: to help in the teaching of the history of medicine, as
an aid to research scholars, and as a link between the activities of the Institute and the public.

The *Museum of Medicine* plans to exhibit medicines of other countries as well as of the Ayurvedic, Unani and other ancient Indian systems. It will also exhibit different methods of treatment; ancient system of treatment in the modern age; history of particular diseases such as cancer, small-pox, etc.; and alchemy. The display of various surgical and chemical instruments developed by different systems of medicine and by different countries would be another important feature of this Museum. The Museum proposes to build a library of films, and other audio-visual aids to supplement the exhibits. The other Museum, called the *Museum of Health*, will depict principles of health in religious scriptures, principles of health in different systems of medicine, and principles of health and modern physical culture.

**Transport Museum, New Delhi**

The Transport Museum, the youngest member of the Indian museum community, was born on 7th October, 1971 when Sri V. V. Giri, President of India laid the foundation-stone of its building in New Delhi. It is being organised under the Railway and Transport Ministries of the Goyt of India. The museum, whose Railway Section has already made a beginning, aims to collect and to preserve the historical documents, to locate and gather antique locomotives and carriages for preservation and exhibition for our children and the future. The Railway Section will display historical locomotives and coaches, over 30 in number, in the environment of their age of action.

The proposed building of the museum will be octagonal in shape and besides Railways, it will have other sections on water transport, on road and air transport.

**National Sports Museum, Patiala**

The National Sports Museum is a part of the National Institute of Sports, Patiala, and aims to preserve for posterity the sports mementoes, trophies, old sports gear, badges, diplomas, souvenirs of national or of international importance.
Besides inspiring promising sportsmen, these exhibits are meant to be used by the research workers as well.

The exhibits include the valuable collections of the former Maharaja of Patiala, of Swami Jagannath and of Mrs. Basana Gupta, wife of late Pankaj Gupta, all of whom have been actively associated with the Indian sports world in important capacities. These exhibits are of several categories—hockey and cricket balls, volley-balls, foot-balls used by famous sportsmen, signed bats and hockey-sticks etc., as well as trophies. Important sports-events are represented by photographs.

The museum is housed in the Moti Bagh Palace, Patiala.

Central Police Museum, C.B.I., R.K. Puram, New Delhi

The Museum belongs to all police forces and other law enforcing agencies in the country. There is a historical section in this Museum, which is devoted mainly to the collection of exhibits concerning law enforcement in ancient times in India and depicts the gradual evolution of law enforcement agencies. Exhibits, such as sculptures, paintings, edicts and manuscripts, etc., in which some aspect of law and order is reflected, are being collected by the Museum for exhibition.
APPENDICES
APPENDIX ‘A’

LIST OF INDIAN MUSEUMS

Andhra Pradesh

Andhra Kesari Yuvaajana Samiti Museum, Rajahmundry.
Andhra Medical College Museum, Vishakhapatnam.
Archaeological Site Museum, Alampur.
Archaeological Museum, Amaravati.
Archaeological Museum, Kondapur.
Archaeological Museum, Nagarjunkonda.
Health Museum, Hyderabad.
Madanapalle College Museum, Madanapalle.
Medical College Museum, Guntur.
Salarjung Museum, Hyderabad.
Sri Venkateswara Museum, Tirupati.
State Archaeological Museum, Hyderabad.
Victoria Jubilee Museum, Vijayawada.

Assam

Anthropology Museum, Gauhati University, Gauhati.
Anthropological Survey of India Museum, Shillong.
Assam Forest Museum, Gauhati.
Assam State Museum, Gauhati.
Commercial Museum, Gauhati University, Gauhati.
Cottage Industries Museum, Gauhati.
Gauhati Medical College Museum, Gauhati.
Sibsagar College Museum, Joysagar.

Bihar

Archaeological Museum, Bodhgaya.
Archaeological Museum, Nalanda.
Anthropology Museum, Ranchi University, Ranchi.
Bihar Gandhi Smarak Sangrahalaya, Patna.
Bihar Tribal Research Institute Museum, Ranchi.
Gaya Museum, Gaya.
Patna Museum, Patna.
State Chandradhara Museum, Darbhanga.
Vaisali Museum, Vaisali.

Chandigarh

Anthropology Museum, Punjab University, Chandigarh.
Geology and Geography Museum, Punjab University, Chandigarh.
Government Museum & Art Gallery, Chandigarh.
Museum of Fine Arts, Punjab University, Chandigarh.
Zoology Museum, Punjab University, Chandigarh.

Delhi

Air Force Museum, Palam, New Delhi.
Anthropology Department Museum, Delhi University, Delhi.
Archaeological Museum, Red Fort, Delhi.
Crafts Museum, Thapar House, New Delhi.
Gandhi Smarak Sangrahalaya, Rajghat, New Delhi.
Highway Museum, Transport Bhavan, New Delhi.
Indian War Memorial Museum, Delhi.
International Dolls Museum, New Delhi.
Lady Hardinge Medical College Museum, New Delhi.
National Children Museum, Bal Bhavan, New Delhi.
National Gallery of Modern Art, New Delhi.
National Philatelic Museum, New Delhi.
National Museum, New Delhi.
Nehru Memorial Museum and Library, New Delhi.
Permanent Exhibition of Building Materials, Nirman Bhavan, New Delhi.
Tibet House Museum, New Delhi.
Transport Museum, New Delhi.
Gujarat

Barton Museum of Antiquities, Bhavnagar.
B.J. Medical College Museum, Ahmedabad.
Calico Museum of Textiles, Ahmedabad.
Maharaja Fateh Singh Museum, Baroda.
Gandhi Smriti Museum, Bhavnagar.
Gandhi Smarak Sangrahalya, Sabarmati, Ahmedabad.
Gujarat Vidyapeeth Museum, Ahmedabad.
Health Museum, Baroda.
Junagarh Museum, Junagarh.
Kutch Museum, Bhuj.
Lady Wilson Museum, Dharampur.
Medical College Museum, Baroda.
Museum and Picture Gallery, Baroda.
Museum of the University Department of Archaeology, Baroda.
Museum of Antiquities, Jamnagar.
Museum of Art and Archaeology, Vallabh Vidyaganagar.
Prabhas Patan Museum, Prabhas Patan.
Sardar V. Patel Museum, Surat.
Sri Girdharbhai Children’s Museum, Amreli.
Tribal Research & Training Institute Museum, Ahmedabad.
Watson Museum, Rajkot.

Haryana

Haryana Prantiya Puratatva Sangrahalya, Gurukul, Jhajjar.

Himachal Pradesh

Bhuri Singh Museum, Chamba.
State Museum, Simla.

Jammu and Kashmir

Dogra Art Gallery, Jammu.
S.P.S. Government Museum, Srinagar.

Kerala

Archaeological Museum & Picture Gallery, Trichur.
Government Art Gallery (Sri Chitratalayam), Trivandrum.
Natural History Museum, Trivandrum.
Sri Moolam Shastyabdapurti Memorial Institute Museum, Trivandrum.
The State Museum and Zoological Gardens, Trichur.
Zoology and Botany Museum, Maharaja’s College, Ernakulam.

Madhya Pradesh

Archaeological Museum, Khajuraho.
Archaeological Museum, Sanchi.
Archaeological Museum, University of Sagar, Sagar.
Birla Museum, Birla Temple, Bhopal.
Central Museum, Indore.
Central Museum, Bhopal.
Central Archaeological Museum, Gwalior.
Digambar Jain Museum, Songir.
District Archaeological Museum, Vidiha.
Dhar District Museum, Dhar.
District Museum, Shivpuri.
Forest School Museum, Shivpuri.
Mahant Ghaisi Das Memorial Museum, Raipur.
Scindia Museum, Gwalior.
State Museum, Dhubela.
State Museum, Jamunabagh, Gwalior.
Tribal Research Institute Museum, Chhindwara.
Tulsi Sangrahalaya, Satna.

Maharashtra

Armed Forces Medical College Museum, Poona.
Bhartiya Itihasa Samsodhak Mandal Museum, Poona.
Central Museum, Nagpur.
Deccan College Museum, Poona.
Gandhi Smarak Sangrahalaya, Sevagram.
Heras Institute of Indian History and Culture, Bombay.
History Museum, Ahmednagar.
I.V.K. Rajwade Samshodhan Mandal Museum, Dhulia.
Kolhapur Museum, Kolhapur.
Lord Reay Maharashra Industrial Museum, Poona.
Magan Sangrahalya, Wardha.
Mahatma Phule Vastu Sangrahalya, Poona.
Mani Bhavan Sangrahalya, Bombay.
National Defence Academy Museum, Kharakvasla, Poona.
Prince of Wales Museum, Bombay.
Raja Kelkar Museum, Poona.
Shri Bhavani Museum and Library, Aundh.

Manipur

Manipur State Museum, Imphal.

Mysore

Archaeological Museum, Bijapur.
Archaeological Museum, Halebid.
Archaeological Museum, Hampi.
Government Museum, Bangalore.
Government Museum, Srimanthi Bhavan, Bijai,
Mangalore.
Local Antiquities Museum, Chitradurga.
Museum of Arts and Archaeology, Dharwar University,
Dharwar.
Visvesvaraya Industrial and Technological Museum,
Bangalore.

N.E.F.A.

Central Museum, Shillong.

Orissa

Archaeological Museum, Konarak.
Baripada Museum, Baripada.
Belkhandi Museum, Belkhandi.
Khiching Museum, Khiching.
Orissa State Museum, Bhubaneswar.
Tribal Research Institute Museum, Bhubaneswar.

Punjab

Central Sikh Museum, Amritsar.
National Sports Institute Museum, Patiala.

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State Museum, Patiala.

Rajasthan

Archaeological Museum, Ahar.
Archaeological Museum, Amber.
Archaeological Museum, Jhalawar.
Bhartiya Lok Kala Museum, Udaipur.
Central Museum, Jaipur.
Central Museum, Pilani.
Chhoturam Museum, Sangaria.
Ganga Golden Jubilee Museum, Bikaner.
Government Museum, Alwar.
Museum and Saraswati Bhandar, Kotah.
National Heritage Preservation Society Museum, Bundi.
Rajasthan Museum, Ajmer.
Rana Pratap Museum, Udaipur.
Sardar Museum, Jodhpur.
Sikar Museum, Sikar.
State Museum, Bharatpur.
State Museum, Mandore.
State Museum, Mount Abu.
The Maharaja of Jaipur Museum, Jaipur.

Tamilnadu

Agricultural College Museum, Coimbatore.
Central Industrial Museum, Madras.
Central Marine Fisheries Research Station Reference Museum, Mandapam Camp.
Fort Saint George Museum, Madras.
Gandhi Smarak Sangrahalaya, Madurai.
Gass Forest Museum, Coimbatore.
Government Museum and National Art Gallery, Madras.
Government Museum, Pudukkottai.
Museum of Antiquities, Padmanabhpuram.
Sri Meenakshi Sundareswarar Temple Museum, Madurai.
Sriranganathaswami, etc. Devasthanam Museum, Srirangam.
Stanley Medical College Museum, Madras.
The Tanjore Art Gallery, Palace Building, Tanjore.
Tipu Sultan Museum, Srirangapatam.
Zoology Museum, Annamalai University, Annamalainagar.

**Uttar Pradesh**

Allahabad Museum, Allahabad.
Anthropology Museum, Lucknow University, Lucknow.
Archaeological Museum, Mathura.
Archaeological Museum, Sarnath.
Birbal Sahni Institute of Paleobotany Museum, Lucknow.
District Educational Museum, Bulandshahr.
District Educational Museum, Deoria.
District Educational Museum, Etawah.
District Educational Museum, Muzaffar Nagar.
Forest Research Institute Museum, Dehradun.
Geodetic Branch Museum, Survey of India, Dehradun.
Gurukul Museum, Gurukul Kangri, Hardwar.
Kaushambi Museum, Allahabad University, Allahabad.
Maharaja Banaras Vidya Mandir Museum, Ramnagar Fort, Varanasi.
Mahatma Gandhi Hindi Sangrahalya, Kalpi.
Motilal Nehru Bal Sangrahalya, Lucknow.
Museum of Science and Culture, Aligarh Muslim University, Aligarh.
Provincial Hygiene Institute Museum, Lucknow.
State Museum, Lucknow.

**West Bengal**

Anthropology Museum, University of Calcutta, Calcutta.
Asiatic Society of Bengal Museum, Calcutta.
Asutosh Museum of Indian Art, University of Calcutta, Calcutta.
Bangiya Sahitya Parishad Chitrashala, Calcutta.
Birla Academy of Art and Culture, Calcutta.
Cultural Research Institute Museum, Calcutta.
Gandhi Smarak Sangrahalya, Barrackpore.
Gurusaday Museum, Thakurpukur, Joka Paraganas.
Harprasad Sastri Museum, Sanskrit College, Calcutta.
Himalayan Mountaineering Institute Museum, Darjeeling.
Indian Museum, Calcutta.
Jute Museum, Indian Council of Agricultural Research, Calcutta.
Kala Bhavan, Shanti Niketan.
Murshidabad District Museum, Jaiganj, Murshidabad.
Municipal Museum, Calcutta.
Malda Museum, Malda.
Museum and Art Gallery, University of Burdwan, Burdwan.
Museum of the Central Glass and Ceramic Research Institute, Calcutta.
Museum and Art Gallery, Institute de Chandannagore, Hooghly.
Natural History Museum, Darjeeling.
Netaji Museum, Calcutta.
Rabindra Bharati Museum, Calcutta.
Rabindra Sadan, Shanti Niketan.
Rishi Bankim Library.
State Archaeological Gallery, Calcutta.
Victoria Memorial Museum, Calcutta.
Vidyasagar Smriti Bhawan Sangrahalaya, Midnapur.
APPENDIX 'B'

MUSEOLOGY COURSES OFFERED BY INDIAN UNIVERSITIES

1. Department of Museology, M.S. University of Baroda, Baroda

Admission

The minimum qualification for admission to the Post-Graduate Diploma Course in Museology is a Bachelor's Degree in Arts or Science. Subjects like Ancient Indian History and Culture/Archeology; History of Art; History; Anthropology; Fine Arts; Botany; Geology; Zoology, Chemistry etc. and aptitude for museum work. Persons already in Museum service and who have completed five years of service are eligible to apply for exemption of one year under the existing rules.

Seats

Admission is limited to 12 students every year.

Duration of Course

Two years, i.e., four terms.

Nature of training and examination

Lectures and demonstration are given on Museum Administration, Collection, Preservation, Chemical Conservation, Display, Educational Activities, Taxidermy, Modelling and casting, Diorama and Group case making, Picture restoration, Photography etc. Besides, there will be compulsory field-work and annual study tour to various Indian museums.

Each student has to submit a dissertation on an approved subject based on his/her research and practical work done in the department. A satisfactory dissertation and passing of
written and practical examination and viva-voce will qualify a candidate for the award of the Post-Graduate Diploma in Museology.

Museum

The Department has established close collaboration with the Museum and Picture Gallery, Baroda. The students receive all facilities to do their practical work in the Museum.

Address

Department of Museology,
Faculty of Fine Arts,
M.S. University of Baroda,
Sayaji Park, Baroda.

2. Department of Museology, Calcutta University, Calcutta

Admission

Any Bachelor of Arts (B.A.) or Bachelor of Science (B.Sc.) or graduate of any of the professional or other courses of Calcutta or any other recognised University may be admitted to the course provided that he has prosecuted for not less than two years a regular course of study in the subjects offered by him in the Diploma Course. Any graduate of this or any other University, engaged in active museum service for a continuous period of not less than three years in any recognised Museum in India or outside may be exempted from these regulations and permitted to appear for the examination as may be approved by the Syndicate on the recommendations of proper Museum authorities.

Duration of Course

Two years.

Nature of training and examination

Each candidate presenting for the examination shall be required to take up a special subject and submit a thesis on any Museum subject, done under the guidance of a teacher or such other person approved by the Syndicate.

Three papers on Museum Organisation and Administration;
Museum Education and History of Museums; and Conservation and Preservation are compulsory. Similarly thesis is also compulsory. The students have choice of choosing one of the two groups—either Archaeology and History or Zoology and Botany etc.

_Museum_

The Asutosh Museum of Indian Art is attached to the Department and provides all the facilities for practical work.

_Address_

The Department of Museology, Centenary Building, Calcutta University, Calcutta.

3. Department of Museology, Bharat Kala Bhavan, B.H.U., Varanasi

_Admisison_

Masters degree in Arts, Science or any other subject. Preference is, however given to candidates having Master's degree in Ancient Indian History and Archaeology or History of Art.

_Duration of Course_

Two years i.e. four semesters.

_Nature of training and examination_

The training is divined in two parts. Part I comprises of four courses: 1. History and philosophy of museums; 2. Range of museum activities; 3. Documentation and presentation of objects; and 4. Care of museum objects and museum photography. Part II also comprises of four courses: 1. A survey of Indian Painting, Decorative Arts including Textiles in museums; 2. A survey of Indian archaeological material including sculptures in the Museum; 3. Internship and preparation of projects in Bharat Kala Bhavan; and 4. Dissertation on an approved subject.
Museum

The teaching as well as practical work take place at the Bharat Kala Bhavan. The course lays special stress on practical aspect of the training.

Address

Department of Museology, Bharat Kala Bhavan, B.H.U., Varanasi-5.

4. Department of Museum Studies, Birla Institute of Technology and Science, Pilani

Admission

The course is open to Graduates in Science, Engineering or Technology only.

Duration of Course

Two years or four semesters. Summer months between first and second year will be utilized for practical training in a specialised museum.

Contents of the Course

The post-Graduate Diploma Course in Museology has been divided in eight papers: 1. History and functions of museums/special functions and features of science museums; 2. Museum organisation/administration/and fundamental cares; 3. Exhibits preparation/objects collection/display and presentation; 4. Techniques; 5. Educational activities and extension services; 6. History of science and technology; 7. Impact of science/present day technological evolution; and 8. Various electives.

Museum

Central Museum, Pilani, where the course is taught, provides facilities for practical training.

Address

Department of Museology, Birla Institute of Technology and Science, Pilani (Rajasthan).
5. Centre of Advanced Studies in Indology and Museology, Birla Museum (Affiliated to the Bhopal University), Bhopal

Admission

No student shall be admitted unless he/she holds an M.A. degree in Ancient Indian History and Culture and/or Archaeology of a recognised university.

Seats

The strength of the students to be admitted each session shall not ordinarily exceed 10, each of whom will get a stipend of Rs. 150 per month.

Duration of Course

One academic year.

Nature of training and examination

Attendance at lectures and practical field training in Excavations, Explorations and Museum Techniques will be compulsory.

There shall be four written papers:
1. Pre-historic, Proto-historic and Historical Archaeology;
2. History of museums and museum organisation;
3. Conservation and Museum techniques; and 4. Indian architecture, art and iconography/or physical and social anthropology with special reference to Madhya Pradesh.

A viva-voce test will also be taken.

Museum

The classes as well as the practical training are held at the Birla Museum, Bhopal.

Address


6. University Museum of Science and Culture, General Education Centre, Aligarh Muslim University, Aligarh

Admission

Admission to the Diploma in Museology course will be
given to the candidates who have at least passed the B.Sc., B.A. or equivalent examination having offered any one of the following subjects:— Zoology, Botany, Chemistry, History (Indian), Archaeology, Anthropology or Fine Arts.

*Seats*

About 12 students will be admitted each year.

*Duration of Course*

The training would be of one year's duration.

*Nature of training and examination*

Under the scheme of vocational courses, the A.M.U. is going to impart intensive practical training in Museology together with some theoretical knowledge in the subject.

The following two papers are compulsory:

*Paper I*—Museum history and administration;

*Paper II*—Display techniques.

Out of the following 4 papers a student will have to opt for any two, pertaining to his special interest or field of study:

*Paper III*—Taxonomy;

*Paper IV*—Art and Architecture;

*Paper V*—Chemical preservation;

*Paper VI*—Preservation of cultural objects.

*Museum*

The training will be imparted at the University Museum of Science and Culture, Aligarh Muslim University, Aligarh.

*Address*

University Museum of Science and Culture, General Education Centre, A.M.U., Aligarh.
APPENDIX ‘C’

JOB OPPORTUNITIES IN INDIAN MUSEUMS

With an increase in their activities, the scope of jobs in museums also increased and it is amazing to see various different categories of workers in a museum of today. Job requirements of a museum primarily depend on the size and subjects represented in the museum, i.e. opportunities in an art museum will be different from the opportunities in a science museum. Let us examine these accordingly.

Art and Archaeology Museums

Besides the basic requirement of Master’s degree in the subject concerned, i.e., Archaeology and Culture, History, Sanskrit, Persian and Arabic (for manuscripts), many persons with other qualifications are also needed in such museums. Some of these are: carpenters, artists, mount-cutters, gallery-guards, photographers, darters (for textiles), modellers (for repairing statues) etc. If the size of the museum is too big (as the National Museum at New Delhi), many more skilled persons such as tailor (for stitching curtains and covers to be provided on blocks used in exhibitions), polisher (for polishing pedestals), marksman (for putting on numbers on objects), book-binder etc. are also needed.

Bigger institutions have library and-laboratory also, each employing skilled persons in their field—Graduates with Library Science and Chemistry respectively.

Natural History Museums

General requirements of museums, no matter to which category they belong, are the same. Curators in natural history museums have to be Master’s degree-holder in Geology, Botany and Zoology. Such institutions also need taxidermists
and chemists. Some of the dioramas made in these museums require modelles and artists help. Only a few museums in our country have Natural History section.

Science and Technology Museums

There are very few, in fact only three, science and technology museums in our country—at Calcutta, Bangalore and Pilani. Personnel required for them are mostly science and technology Bachelors and Masters and Engineers, depending upon the sections they have. Mining and Metallurgy Engineers, Electrical Engineers, Irrigation and Power Experts, and Master’s degree-holders in Physics, Chemistry and other such subjects are needed by such museums.

Other Categories

Specialised museums, such as a Textile, a Transportation or a Gandhi museum, have their own needs. Textile museum will need a Graduate in Textile Technology to do justice to the job. If resources permit, such a museum has to be air-conditioned and in that case technicians to maintain the machinery will also be on the museum staff. Similarly a Transportation museum will need an engineer specialised in the job. On the other hand, Gandhi museum will need a man having thorough knowledge of Gandhian philosophy. On the same lines it can be said that scope of employment in a museum will depend on the subjects represented in it and on its financial resources.
APPENDIX ‘D’

MUSEUMS ASSOCIATION OF INDIA

Founded in the year 1944, the Museums Association has successfully completed a quarter century and has become the main spokesman of museums and museum personnel in India. Its present membership shows its popularity: Hon. member 1; Life members 14; Supporting members 3; Institutional members 72; Associate members 128 and Donor members 8 (as in Feb. 1971). Now that many regional associations have also been formed, M.A.I. serves as the link between such associations and helps them in coordinating activities. Similarly it keeps liaison between its members and other organisations such as ‘Standing Committee on Museums’ etc.

The aim of the M.A.I. is to further the cause of museums in India by making them popular with public, by providing new ideas through seminars and publications and by promoting mutual appreciation of each other’s problems by holding museum conferences. The Association has also taken up the responsibility of representing cause of museums and their personnel before Pay Commission and other such organisations.

For the past few years the Association has launched a scheme of celebrating ‘Museums Week’ throughout the country to popularise the institution. It has given great impetus to local museums in various regions.

The Association has been regularly publishing ‘Journal of Indian Museums’ of which 26 volumes have been brought out so far. Besides discussing practical problems faced by curators in their day-to-day work, the Journal also publishes a column called ‘Recent acquisitions’ which provides an opportunity for the smaller museums to publicise their objects. From time to time ‘Museums News Letter’ is also published.
'All India Museums Conference' is arranged annually by the Association. It provides opportunity to discuss mutual problems and to know each other personally which is very important in the museum profession.

Thus, the Museums Association of India has become a strong organisation of persons in museum profession serving the cause of museum community. Its membership is open to all persons working in museums (or otherwise connected with museum work) and annual fee is Rupees Ten only. Its office is located at the National Museum, Janpath, New Delhi-11.
APPENDIX 'E'

INTERNATIONAL COUNCIL OF MUSEUMS

ICOM, as it is popularly known, stands for the International Council of Museums. It is a non-governmental organisation to which UNESCO gives consultative status and a subsidy towards its operation. The organisational meeting that gave form to ICOM was, by the arrangement of UNESCO's Museums Division, held just preceding its second General Conference, in Mexico City in late 1947. Museum directors from France, U.K., Poland, Italy, Switzerland, Belgium, The Netherlands, Czechoslovakia, New Zealand, The United States and Mexico attended this conference. But in fact even before this, the organisation of ICOM was created in 1946 by the late Chauncey J. Hamlin, President of the Buffalo Museum of Science, U.S.A.

ICOM has now become the connecting link and catalyst of international co-operation between museums throughout the world, with an emphasis on museums in rapidly developing countries. It also endeavours, through its thousands of members from all geographical regions and of all scientific disciplines, to promote mutual understanding among people.

The principal sources of ICOM action are the Executive Committee, the Advisory Board, the Secretariat, the National and International Committees, the UNESCO-ICOM Documentation Centre and the Bulletin 'ICOM News', published four times in a year. Through its National Committees, ICOM co-ordinates a vast international effort between all countries towards a thorough and progressive transformation of the conception of museum; towards the modernisation and expansion of its educational and cultural activities; towards the preservation of the cultural heritage.

ICOM also organises valuable meetings and exchanges of views between specialised museologists from various countries.
through its International Committees. Such meetings, held frequently, undertake studies on specific subjects and draw up reports, which are then published through the intermediaries of ICOM and UNESCO. Thus the doctrine of ICOM is ever-progressive, to the benefit of the profession as a whole.

The Executive Committee is the 'Steering' committee of ICOM, and works in close collaboration with the members of the Advisory Board (The Chairmen of National and International Committees). Recommendations from the Board are studied by the committee, and often result in numerous meeting, survey, missions and study grants which are among the greatest achievements of the organisation.

The continuity of this extensive international activity is ensured by a Secretariat which has a very small staff under the control of the Director of ICOM. The Secretariat has four sections—(i) Membership: enrolments and services to members; (ii) Information: documentation, publications and public relations; (iii) Programme, meetings and major projects; and (iv) Coordination: national sector, regional sector and international sector. Yet another section looks after accounts, personnel and other administrative matters.

The activities and progress of museums throughout the world are noted, analysed and catalogued by the UNESCO-ICOM Documentation Centre. This Centre now has the largest existing collection of museum documentation, and its card index systems are an inexhaustible supply of information on all museum matters.

The bulletin, ICOM News, is the link between the museums of the world and the permanent bodies of ICOM.

For the last four years ICOM opened an Agency office at New Delhi to concentrate on the problems of developing Asian countries. This has been a great help and India, Ceylon, Nepal, Thailand, Malaysia, Burma, Pakistan, Indonesia and Singapore etc. have been greatly benefited by the ready Counsel of the permanent Expert stationed by ICOM at New Delhi. The regional office is located at the Sapru House Annexe, Barakhamba Road, New Delhi. ICOM's Indian National Committee's office is presently situated at National Museum, Janpath, New Delhi-11.
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39. **Protection of the Archaeological Heritage.**

40. **Studies in Conservation.**

41. **Temporary and Travelling Exhibitions.**
## APPENDIX 'G'

### Accession Register Columns

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Staff pattern for a small Museum
## Staff pattern for a Regional or National Museum

### Director

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SELECT GLOSSARY

ACCESSIONING: The process of entering museum objects in registers in the museological terminology. In other words accessioning is maintenance of basic museum records.

ACCESSION NUMBER: Each object, when it is entered in the Accession Register, is allotted a number which is known as accession number. The international practice in this regard is to give first the year of acquisition and then the serial number, e.g., the number 71.53 means museum object acquired in the year 1971 and having serial no. 53.

CONSERVATION: The process of treating an object or monument to retard the process of their deterioration and cure them of any defects or ‘disease’.

CURATOR: One who is in charge of a collection or any activity of a museum.

DISPLAY: The way the museum objects are exhibited in its galleries is called display. Museum display tries to be educative, interesting, easy to understand and agreeable to see.

DOCUMENTATION: The term literally means preparation of records and documents. In museological usage it includes the processes of accessioning, card-indexing, cataloguing and photographing.

DE-ACCESSIONING: A procedure of removing an object from Accession Register. It takes place when an object is permanently removed from the museum’s collection by virtue of deterioration or transfer to another institution. Appropriate notes are made on the Accession Register and are countersigned by the Director or the Curator of the institution.

ICOM: International Council of Museums.

INDEX-CARDS: To facilitate the research work and day-to-day museum working, index-cards provide basic information about the museum objects along with small photographs. These cards are arranged according to either accession numbers or
art schools, or regions, etc.

**INTERPRETATION**: A term often used by museum professionals to indicate all means of explaining museum objects and exhibitions, and making them understandable and significant. It also comprehends labelling, publication, demonstration and all ways of establishing a connection between museum objects and exhibitions and the viewer.

**KEEPER**: A term used for curator.

**MUSEOLOGY**: Museum science; it has to do with the study of the history and background of museums, their role in society, specific systems for research, conservation, exhibition, education and museum organisation, relationship with the physical environment, and classification of different kinds of museums.

**MUSEOGRAPHY**: It is applied museology; that is, the practice of museum techniques in all their various aspects.

**POLECATS**: Aluminium tubes fitted with springs so that the pole can be adjusted to fit different heights of galleries for erection of adjustable stands, display panels etc.

**PRESENTATION**: Presentation means the way in which museum objects are exhibited or arranged. The use of this term is often preferred by museum professionals to the term ‘display’, which is a general term for showing objects, whether in a shop, a trade exposition or other, usually commercially oriented places.

**PRESERVATION**: Every object is subject to deterioration. Preservation means to stop this process of deterioration or to retard it.

**REGISTRATION**: The process of accessioning, card-indexing and numbering of museum objects.

**RESTORATION**: To bring the object to its original shape and condition.

**TREASURE-TROVE**: It actually means ‘ownerless property’ but is mostly used with reference to coin hoards dug out from earth. Indian Treasure-Trove Act authorises the Government to take charge of all such things dug out from earth.
LIST OF ILLUSTRATIONS

Newly built Museum Buildings

1. Salarjung Museum, Hyderabad (Courtesy: Salarjung Museum, Hyderabad)
2. Maharaja Fatehsingh Museum, Baroda. (Courtesy: Maharaja Fatehsingh Museum, Baroda)
4. University Museum, Department of History of Art, Chandigarh. (Courtesy: Head, Deptt. of History of Art, Chandigarh)
5. Birla Academy of Art and Music, Calcutta. (Courtesy: Secretary, Birla Academy of Art and Music, Calcutta)
6. Durbar Hall, Maharaja Banaras Vidyamandir Museum Ramnagar. (Courtesy: Secretary, Maharaja Banaras, Vidyamandir Trust)


Lighting

8. Gallery showing luminous ceiling utilising natural as well as artificial light. (Courtesy: Director, Cleveland Museum of Art, Cleveland, Ohio, U.S.A.)
9. Gallery showing ribbon windows screened with venetian blinds giving diffused natural light. (Courtesy: Suresh C. Lal)
10. Against the dark background spot-lighted objects give a dramatic effect. (Courtesy: Director, Cleveland Museum of Art, Cleveland, Ohio, U.S.A.)

*11. Spot-light brings sculptures to life.
*12. Indirect lighting by troughs and direct lighting in the showcases.
*13. Direct lighting louvres in a showcase.

Exhibition Techniques

*14. A top lighted showcase gives a realistic form to the costumes.
15. Decorative art objects grouped according to size and displayed at different levels to show their best forms.

16. An educational exhibition fully illustrated with photographs, extensive labelling and replicas besides original art objects.


19. Large art objects need individual pedestals while smaller ones look better grouped together in a showcase.

20. World map as a centre of attraction in a science gallery (Courtesy: Suresh C. Lal)

21. A good layout easily leads visitors from one exhibit to another. (Courtesy: Suresh C. Lal)

22. A good layout easily leads visitors from one exhibit to another. (Courtesy: Director, Cleveland Museum of Art, Cleveland, Ohio, U.S.A.)

23. A varied selection of decorative arts, anthropology specimens, paintings and textiles are presented together in this gallery in an interesting manner.

24. The Bankura horse forms the centre of interest. Marble-chips boxes protect the open exhibit from touching hands.

25. Reference materials like maps, charts, photographs and detailed labels are placed together in this orientation lobby at the gallery entrance.

26. Visitors participation in the exhibit at a science gallery. (Courtesy: Chief Curator, Birla Industrial and Technological Museum, Calcutta)

27. A jeep becomes a mobile-jeep for carrying circulating exhibitions.

28. A view of the mobile exhibition set up in a school lawn.

29. A good layout interspersed with flower-pots adds to the exhibition's charm. (Courtesy: Director, Cleveland Museum of Art, Cleveland, Ohio, U.S.A.)

30. A science gallery makes use of photographs, models and murals in addition to working models operated by visitors. (Courtesy: Suresh C. Lal)

31. Individual background and spot-lights give a new dimension to sculptures.

32. Large sculptures, bathed in sun, look well in natural surrounding. (Courtesy: Director, Cleveland Museum
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25. Reference material like maps, charts, photographs and detailed labels are placed together in this orientation lobby at the gallery entrance (p. 91)

26. Some exhibits like this one can be touched. Visitors' participation in the exhibit at a science gallery
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31. Individual background and spot-lights give a new dimension to sculptures (pp. 51-63)

32. Large sculptures bathed in sun look well in natural surrounding (p. 64)
DISPLAY TECHNIQUES

33. Miniature paintings grouped in large frames tilted to avoid reflection and to provide better visibility (pp. 87-88)

34. Peruvian gold and silver objects displayed against dark cloth background (pp. 91-92)
35. Textile gallery showcases before the division of the gallery. Note the extreme left showcase (p. 92)

36. The above showcase after division exhibiting pre-Columbian art objects
37, 38 & 39.

Wire-dummies with adjustable parts are suitable for display of costumes.
40. A thematic exhibition "Krishna Legend" includes sculptures, bronzes, paintings on cloth and paper, wall-paintings, manuscripts and wood-carvings (pp. 81-82)

41. A special exhibition of "Sikh History in Indian Art" showing paintings and manuscripts (pp. 81-82)
42. A double-hinged storage box for miniature paintings (p.137)

43. Painting boxes kept in a storage cabinet in a way that each box can slide out independently.
44. Fragments of wall-paintings, textiles and other antiquities are stored in shallow drawers.

45. A scholar studying a miniature painting mounted on a double-mount with a window of the exact size of painting.
46 & 47. Textile-rollers are made of aluminium sheets on wooden frame. Each textile is individually rolled and covered with alkathine (p. 137)

48. Wood-carvings are covered with alkathine and are hung on both sides of the wire screens
49. Costumes and textiles are hung on hangers while three-dimensional objects are stored on shelves (p. 136)

50. Swords are stored individually on slotted wooden batons inside a wooden cabinet (p. 137)