MUSEUM ARCHITECTURE

Museums were initially established in structures constructed for other purposes such as residential, social and religious places such as palaces, forts, churches etc. This is because of the reason that museums came into existence out of enthusiasm to collect and display objects by the eminent citizens of the community let they be nobles, gentry, elite, enlightened, explorers, prosperous merchants or traders ; by various means and by spiritual leaders or heads of different sects, faiths, beliefs or pantheons who used to receive them through gifts and votive offerings made by the devotees or followers to religious places. Some of the present world famous museums are a testimony to that fact. A few of them are the British Museum at London, the Louvre of Paris (see figures) and the Hermitage Museum located at St. Petersburg in Russia. Gradually, over a period of time museums slowly transformed into public institutions with a special purpose. Along with that metamorphosis, a need for a change in the structure of building arose with the change in the character and purpose of a museum. Here, in a nut shell this may be explained as a transition of museum from being the preserve of a elite few to the reach of masses, which entailed corresponding changes. This led to the genesis of a string of experiments in this direction during various stages of epoch, which caught the attention of the people repeatedly and convinced all the people concerned with the existence and promotion of museums across the world. Though this would be dwelt in greater detail in the later part of this script, it would suffice here to mention at this point that building construction activity for the establishment of a museum and to support and facilitate its various programmes and associated activities had fascinated and prompted the imagination of planners, designers and builders all throughout and would continue to remain so in time to come.

Further, the socio-economic and historic aspects, the developments in the field of science and technology and their influence on structural designs of architecture, brought significant changes in the form and function of museum building. Moreover, the advancement of knowledge in the subject of museology and better understanding of the functioning of a museum; induced changes in the museum building considerably. As a result, museum building is understood as a special architectural unit different from other public places of various kinds; with distinct identity and separate requirements of its own. During the earlier times, the museum building is understood only as a display place. As quoted by

Coleman[1], 'this is clear from one of the remarks by an architect as -the building requires the satisfaction of its logical programme; consisting of the orderly disposition of the galleries, their accessibility and case of circulation, their varied shapes and sizes, their flexibility, their proper circulation to the exhibits, as well as landscape terraces and inner courts that may afford restful function to the routine of the visit. This is one of the earliest notions and thus is an incomplete one. A display museum, nothing more was envisaged. This has happened again and again with the museums of old times.' Design and distribution of space for several other functions such as security, conservation and storage of collection was inadequate with majority of the old buildings. The scope for various educational and cultural aspects was also not visualised in those buildings.

The spatial requirements of different types of museums vary according to the subjects and themes of display and the related activities and programmes they envisage based on or/and related to them. Thus, the allocation of space for display, storage, office and technical areas is unique with each museum. At this stage one thing has to be specified, i.e. the needs of the museums are different, where as there are some factors universally applicable to all museum buildings, irrespective of their size and the subject they display. Similar opinion was expressed by Mr. Parr[2] as "Architectural *needs of museums are not universal, but* peculiar to each institution. To speak of these needs in general terms, and attempt to formulate recommendations applicable in common to the wants of all, would therefore be both presumptuous and illogical. But; *there are universal factors* that have to be taken into account by every museum in determining its own particular and unique requirements". Similar opinion was expressed by Alma Wittlin[3] under the heading, 'The public Museum : its architecture' in her book as 'One generalisation on this subject would appear justified- that there should be no ready-made formula for museum architecture. Each case requires individual planning and the prospects of success will increase if the architect co-operates with the curator, and if the curator possesses sufficient knowledge of the architectural aspects of a museum to act as the architect's competent collaborator. The planning of a museum should be based on its "inside " rather than on its facade. The

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[1] . Laurence Vail Coleman, *Museum Buildings*, American Association of Museums, Washington D.C., 1950, p.25.

[2] . A.E. Parr, Problems of Museum Architecture, *Curator*, v.IV, n.4, American Museum of Natural History, New York, 1961, p. 304 .

[3] . Alma S. Wittlin, *The Museum its history and its tasks in education*, Routledge & Kegan Paul Limited, London, 1949, p.209.

first question should be : what purposes will the accommodation have to serve, - the display of specimens for the general public.? Will the Museum be an appendage to a community centre or a self-contained educational institution? Will it be combined with the local public library ?'

Even, Bruno Molajoli[1] stated the same. 'There is no such thing as a museum planned in the abstract, suitable for all cases and circumstances. On the contrary, every case has its own conditions, requirements, characteristics, purposes and problems, the assessment of which is the primary task of the museum director'. So, the discussions in this chapter are based on the validity of the commonality of the several aspects of museum architecture.

It is a common practice globally, that museums are established in structures to temporarily house museums, with a view to shifting them to an appropriate and permanent building at a later stage. Thus, quite often these initial places are adapted to serve the museum purpose varying from what they actually are built for. This indicates that museum buildings were formed in the beginning in modified buildings. Adapted buildings sometimes suit the museum purpose with the required changes brought out in them, and function successfully as museum houses with negligible limitations. (One such example of a successful adaptation in Indian context is the building of the National Gallery of Modern Art. The former Jaipur House, located in New Delhi was renovated to accommodate the Gallery.) Similar opinion was expressed by Dr. Grace Morley,[2] in her article ' Museums of India' states that 'It is installed in Jaipur house, formerly a residence, a building of spacious proportions which has been adapted quite successfully to exhibition and general museum purpose.' Remarks made by the Estimates Committee[3] of the Parliament on the National Gallery of Modern Art were also taken into consideration. It stated in its Recommendation serial numbered 34, the following. 'The Gallery is housed in a building which is not its own and which was not intended to be an art museum. It goes to the credit of the National Gallery that they have improvised the building to suit its own purposes.

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[1] . Bruno Molajoli, Museum Architecture, *Organisation of museums- a practical advice*, Unesco, 1960, Paris, p.147.

[2] . Grace Morley, Museums in India, *Museum*, v.XVIII, n.4, Unesco, Paris, 1965, p. 247.

[3] . Estimates Committee Report, Ministry of Education, 62nd report, New Delhi, 1968-69, pp.17and 23.

The Committee realise that although in the context of present financial difficulties it may not be possible to construct, at least in the immediate future, a separate building to house the Gallery, nevertheless they feel that the National Gallery of Modern Art of independent India should have in due course a befitting building of its own.' In its Recommendation, Serial numbered 20 - which it did not desire to pursue in view of the Government reply on the matter the Committee realised the following. 'The National Gallery of Modern Art is handicapped both by unsuitable and inadequate accommodation. They also realise that in view of present financial difficulties it may not be possible to construct a separate building to house the Gallery. The Committee would therefore suggest that Government may explore the feasibility of acquiring the present building and making necessary alterations and extensions and thereto to suit the purposes of the National Gallery of Modern Art. The Committee feel that the present Gallery building possesses the requisite *locational advantage*.' The state of affairs concerned to this museum building, specially with regard to exhibition areas were by and large satisfactory, according to the observations made by the author during the survey carried out for this purpose. But, examples of this kind are a few and far between as the chances of suitability of an adapted building are less.

Often, an adapted museum building has to make compromises on various structural limitations such as lack of flexibility, unsuitability of structure etc.

According to the author, Natural History Museum, Darjeeling and the Birla Industrial and Technological Museum, Calcutta are examples of such ill- suited museum buildings. Birla Industrial and Technology Museum is a former residential bungalow of the industrial family, the Birlas. It is noticed during the field work that there is rigidity in circulation of visitors and arrangement of galleries. The answers provided by the authorities to the questionnaire on this aspect corroborate the above observation (see appendix). Similar opinion was expressed by Bose[1] in his article in the monogram *Small Museum* stating, 'for a science and technology museum, where exhibits are mostly fabricated as per given design-a practice which takes a long time, and cannot be accelerated simply because the overhead on staff will increase, *depositories* are a must. Sometimes the exhibits' ultimate utilization is quite apparent either because of academic doubts or

[1] . A. Bose, Planning a building for a small museum, *Small Museum*, , Museums Association of India, New Delhi, 1975, p. 67.

if it does not immediately fit into the galleries in mind. In such cases preservation in a depository is the only answer.'

Similarly, the National Museum of Natural History is located in the Federation of the Indian Chambers of Commerce and Industry (FICCI) building, a structure constructed to house and industrial museum as was stated by the museum director, Dr. S.M. Nair. It pays a monthly rent of Rs. 1,00,000 /- for that structure. The director of the museum, a noted museologist of the country agrees that the building is a misfit (supportive evidence is furnished in the answer to the questionnaire on this aspect. It is appended at the end of this text.) It is a six storied building. The galleries organised on four floors, are provided with false walls to accommodate the thematic exhibits, which form majority of the display. Though the museum is open for all sections of the public, the museum's target audience are basically school students. On any given working day, this museum is seen crowded by groups of school children in large numbers. Teachers are seen carefully escorting the primary school children when they climb the externally located spiral staircases to reach the different floors to visit the galleries located within them. Though, never an accident is reported in the three decades of the existence of this museum the structure still looks perilous. Further, the building doesn't have any special precautionary safety measures against some potential dangers such as a fire hazard. Further details of it will be discussed at a later stage.

But the preceding account does not by any means lead to the conclusion, that a purpose built museum is the panacea for all the problems associated with the physical structure of museum. However, the concept of constructing a special building to serve the museum purpose led to the evolution of more suitable structures to house museums. Though, the present topic in discussion mostly seeks to be native in context, for the understanding of the subject under discussion a few exotic examples are quoted.

Having discussed in brief, about some elementary problems associated with museum buildings in the country, it would be pertinent here to slightly digress to learn about some path-breaking and trend-setting events and development concerned to museum buildings that took place in the global context ; which served as precursors to the changes that took place with

Central Museum, Jaipur. State Museum, devoted to the culture of Rajasthan, in a handsome building of Indo-Saracenic styles, constructed in 1880s as a museum and extremely difficult to adapt efficiently to this purpose. (Courtesy- *Museum*, v.XIX, n.4, Unesco)

Salar Jung Museum (Courtesy- *Modern Museum*, Anubhav Publications)

A view of the Prince of Wales Museum.

A general view of the Victoria Memorial Hall.

museum buildings all over the world . As quoted by Wittlin,[1] "The Altes Museum in Berlin was one of the earliest museum buildings erected for its purpose . In 1797 plans for its construction were submitted to Fredrick Wilhelm II by A. Hirt, professor of ancient art in Berlin. In his memorandum Hilt encouraged the building of large halls and long corridors, and stressed the importance of good lighting ; he warned of unnecessary decorations . Paintings were to be accommodated on the higher floor and statues downstairs. Schinkel was entrusted with the design of the building ; its imposing cupola and colonnades in classical style attracted the public before the exhibits were set up. The museum was opened in 1830. In spite of all planning, it proved to be too small, and contrary to expectations, the interiors were too ornate. Likewise Klotz stated, 'Fredrecianum built at the Kassel in Germany is known as the first purpose built museum in the world. Similarly, Glyptotek in Munich is the museum built specially to cater to the needs of subject Archaeology'[1]. The recorded information of such landmark events regarding the museum buildings signifies the perceived need for a suitable and purpose built; and subject specific requirements of a physical unit.

Subsequently, considerable experimentation and progress was made in this regard. In Indian context some prominent museums were housed in purpose built structures or were soon shifted to such places from their temporary homes. For example, the museum that came into existence at the provinces of India during the colonial rule such as the first museum, the Indian Museum; the museum of Modern History- the Victoria Memorial Hall in Calcutta and the Prince of Wales Museum of Western India in Bombay; are all housed in specially constructed buildings, meant for museum purpose.

Similarly, museums that were formed at the erstwhile princely states such as the Museum and Picture Gallery, Baroda; Sardar Museum, Jodhpur and the Central Museum ,Jaipur etc. were purpose built museum buildings.

Coming to the immediate epoch following the post-independence period, the National Museum at New Delhi, the Salar Jung Museum at Hyderabad are some of the better known museum building projects undertaken in the initial stages of museum development of free India.

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[1] . Alma S. Wittlin, *Museums : in search of usable future*, The MIT Press, Massachusetts, 1970, p.95.

These museums are financed by the central government. Some of the state museums such as the State Museum, Lucknow Bharat Bhavan, Bhopal and the Museum and Art Gallery, Chandigarh are also housed in specially built buildings. Besides, some unidisciplinary or subject specific museums of art, natural history such as the recently opened National Modern Art Gallery at Mumbai National Handloom and Handicraft Museum at New Delhi and the Regional Natural History Museums at Mysore and Bhopal are custom built. Similarly, majority of the chain of contemporary science and technology museums are purpose built. The foremost in this category is the Nehru Science Centre at Mumbai. Likewise, the personalia museum- Gandhi Sangrahalaya and the municipal museum- Sanskar Kendra at Ahmedabad and are all specially built. But all the purpose built museums were not successful in fulfilling their objectives. For example, there were reservations and disagreements expressed by experts in the field of museology about the efficiency and suitability of the National Museum and the Salar Jung Museum buildings. At least there was a reported remark on the latter to have been misunderstood as a hospital or an office building by a visitor. Examples of this galore throughout the museum field all over and this country is not an exception. This is a matter of serious concern for the expenses and resources involved; and discussed in detail in the later part of this text. (This is also true with the State Museum, Lucknow; according to its authorities.)

Making his remarks about unsuitable buildings Satyamurti[1] stated, 'the Lucknow Museum's old building is an example of such an architecturally unsuitable buildings.

It is fortunate that some of the Museums of recent origin had the advantage of better planned new buildings which have amply compensated for the cramped existence they might have endured in old and antiquated buildings during the earlier years. The Municipal Museum at Allahabad has now an excellent, well-planned building, which is a tremendous improvement over the old ill-lighted rooms in a wing of the municipal buildings'.

According to Klotz,[2] ' in spite of well defined principles of museum architecture, the planning, designing and construction of a museum

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[1] . S.T. Satyamurti, Demands on a museum of today and their effects on the Museum Design, *Museum Architecture,* Museums Association of India, New Delhi, 1971, pp. 36-37.

[2] . Heinrich Klotz, *New Museum Buildings in Federal Republic of Germany,* Academic Additions, London, 1986, p.7.

building has still remained a perpetual challenge to the architect and as well as to the museum personnel because the various aspects involved with it are not only intricately related but also contradictory and conflicting in nature.' Similar opinions were echoed by scholars and critics at various fora and conferences held on this topic at several places from time to time.

As a physical structure, a concrete unit, a durable edifice and a three dimensional form with volume and space is a quintessential requirement to organise any systematic and continued activity for a prolonged period of time. Museum as a public institution having a character of permanency, evokes a spontaneous response to the problems associated with buildings, at periodic time intervals. With this prelude the author proceeds to dwell on the various aspects of museum architecture.

In 1894, a certain Martin Nadand as quoted in the editorial[1] of quarterly '*Museum*', told the French Legislative Assembly ' *Quand le batiment va, tout va* ' (when the building is alright everything is alright)

According to Laurence,[2] 'flexibility of the building to allow for readjustments is another feature that now requires attention. Flexibility that allows for functional growth - that is, expansion of the various categories of space without violence to either the appearance of the building or its usefulness-has been envisaged in some recent buildings neglected and then loudly cried about in others. Unless the growth of a building is planned wisely from the start, additions have to be sadly improvised. Shortness of funds may dictate on incomplete building but only shortness of sight can give a hidebound project.

The museums is a sort of creature for which the museum building is the supporting structure and covering. A good building fits its occupant and provides for natural action; and it ought to have ways of being enlarged as the occupant grows.

Museum people take for granted that their work will go on regardless of surroundings, but without proper housing they cannot do the job as they

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[1] . Editorial, *Museum*, v.XLI, n.4, 1989, UNESCO, Paris, p.195.

[2] . Laurence Vail Coleman, *Museum Buildings*, v.1, American Association of Museums, 1950, pp.9-34.

should. A functional staff is better than a functional shelter for it; but the shelter is none the less important in making the staff effective. The future of museum work in all its branches rests heavily on the character of future museum buildings.

Museum fields, which are broadly art, archaeology, natural history, science, and history, are cultivated as a rule in such different ways that no one museum, unless it be in effect a group of separate institutions, can well deal with all these fields together.

The museum that builds without knowing exactly how its field is defined, is getting off on the wrong foot to say the least.'

Institutional types, which are produced by different combinations of museum purpose and organization, have correspondingly different kinds of buildings, so that planning for an institution presupposes knowledge of a special category of experience as well as general knowledge of museums and familiarity with the particular case.

Public museums, a group that shows much diversity as to size and development and that embraces museums in the several fields, can be taken collectively as the principal type. This comes close to saying that one should not build for a museum without having in camp someone who is thoroughly familiar with museum work.

A common feature of public museum organization that needs to be well understood, in the interest of planning with foresight, is the local society. A detailed explanation of this point with an example is given in the following chapter.

Exhibits and reserves are the two main groupings of museum material for which housing plans are required. Neither category should be overlooked, no matter how little material there may be at the time of building. This plan would be helpful even to a new museum with not enough material to fill its display space, since attention would thus be called to the storage requirement, which is a sure need of the future likely otherwise to be minimized in planning.

Either exhibit space or storage space may become crowded. Pressure of this kind at any point should bring up the question of enlargement of storage space rather than of exhibition space. The common practice of filling existing rooms to overcrowding with exhibits, and making this the

Exhibition galleries at times need ample space provisions to support allied activities based on collections displayed in them. The picture illustrates an example. Gallery talks and demonstrations are some such activities. The former being remote, the latter is a non-existent practice in Indian context.

Gallery talk in an exhibition room. (Courtesy- *Organsization of Museums- a practical advice*, Unesco)

. Vishakha Walker performs a dance to Shiva in the museum's gallery of astern sculpture. The large bronze sculpture at her left is an eleventh- -y Dancing Shiva (Shiva Nātarāja) of the Chola Period, South India.

reason for adding to the building, is fundamentally unsound. In principle, exhibits are selective and should be adapted to given space, whereas reserves are comprehensive and may require added space from time to time. As the quantity of reserve material increases, its use should develop for reference and study and in time for research. The organization and arrangement of reserves may well anticipate such developments from the start.

Space for reserve collections, or study collections, usually called study-storage space should be planned in workable relationship to other parts of the building and should be equipped for service according the nature of material it will contain.

The library is a department having the care of books and kindred materials, and often of photographic collections. It carries on services for the museum's staff and for the public, including outside work by correspondence.

The size of the library, relative to the institution as a whole, differs generally in the different fields-the library tending to be proportionately larger in history museums, where the library tail sometimes wags the museum dog.

The library should have a public reading room, stacks that can be extended, and perhaps other space provisions.

Educational work gives the modern museum much of its character and serves also as the key to public support. Museums often receive uncritical praise for the up-to-date character of their non-exhibition spaces, although the truth is that buildings tend to make better provisions for administration and physical running of the institution than they do for the educational group of functions including museum extension. However, there are many exceptions.

The *best approach* to building is *by not going half-cooked.* Many a lasting ill has come from spending a bequest or a public fund on some footless museum structure for which the occupant body has only just been formed. A museum needs to find itself before it can be well housed. Makeshift quarters of almost any kind that will not defeat themselves by being too good are the surest preliminary to a permanent home that will prove to be good enough.

The task of trustees presiding over a building project starts with the *developing of a programme.* There is a *substantial body of museum experience* that can be useful as *background,* but trustees have been known pass over all such guidance and accept decisions from an architect who has also passed it over for practical purposes. Where this is not done, no one should be surprised at a result that is far behind the times.

The committee has the duty of getting together a statement of what spaces and other facilities are required, and of how they should be related. Many a building reveals good intentions of the part of its planners but gives little indication that the planners ever found out what they wanted.

One of the products of preliminary work should be an itemized schedule of space requirements for the different divisions of the museum's work. Preparation of this inventory calls for basic decisions as to how soundly curatorial work will be proper recognition of educational, administrative, and service needs. In short, this is the point at which the institution's career is being predetermined.

As a very early step, the financial and legal situation should be explored.

From the start to finish there should be team work. One hears a great deal about the cooperation through shortcomings of architects ; but plainly the trouble is not all on one side. The building committee, which by the way should be as quite as strong as the architect has the duty of understanding the problem just as the architect has. This should help produce a meeting of minds.

Land and capital for public museum building come sometimes from the city, sometimes from an individual by gift or bequest, less often from a number of people by private subscription or public fund-raising campaign. A combination sources is not unusual ; in many familiar cases the land has been set aside by the city, part of the building fund comes from a city appropriation of current revenue or capital, and balance of the building fund has been by general subscription. Countries with exceptions, have not done much for museums in this way, although countries in certain states contribute towards running expenses or give other aid.

The right architect makes the building; the wrong architect breaks it.

There is sometimes a difference of opinion among members of the board as to whether the architect should be decided upon by *competition or*

direct choice. Most people hold that an architect should be chosen in the same way as an engineer or any other specialist- on his record. It has been said of competitions in general that the architect who enters is thinking first of all not of the institution and the community but of how to get the job.

However, a competition may offer the only way to escape what would be an unfortunate appointment, as in the case of some government projects, whether under federal, state or municipal auspices, that might otherwise go wrong by political influence or bureau routine. Government architect is proverbially backward, and if a competition can overcome its weaknesses in any measure then a competition is clearly indicated.

After the building is open, the museum may well publish in some architectural journal a full description of it with plans, exterior and interior views, and a construction outline giving names of contractors and dealers.

Size of building of a public institution is generally proportionate to the size of local population. How to reckon with a community's growing needs, in a museum large or small, is part of the problem of size.

Familiar is indeed the sort of beginning that provides fairly liberal exhibition space and perhaps enough office and service space but no adequate curatorial space and no provision for adding what is needed in any relationship. The shortsightedness is all the more strange in the light of a myth that museum are `permanent' structures - an idea that persists in the face of evidence all about that museums become obsolete in a few years. All things considered museum planners might do well to provide as much as they can of the structure needed at once, planning this with a view to extension of curatorial space primarily, and recognising that perhaps 50 years of life for any of the building will give that part time to outlive its best usefulness'.

Having discussed about the requirements of buildings and the role of museum personnel and that of the architect, it would be appropriate to dwell upon the function and purpose of museum. To sum up, if the foregoing is on what is a museum building and who are the people associated with it ? The following will be on how it should be and for whom it is meant for ?

According to Hebditch[1] *'with the possible exception of religious observance, in no other activity is architecture so important as a means of communication as in museums and galleries. The curator ignores an understanding of the practice and aesthetics of architecture at his peril, not least because the artifact created for the expression of his museum purposes is in itself often part of the evidence for the historical continuum that he is presenting.*

It follows therefore, that ***museum buildings have evolved in response to changes in the liturgy of museum communications and the way in which museums see themselves as custodians of truth.*** This is perhaps most clearly seen in contrasting the attitudes expressed in the architecture of the great museums of the nineteenth century and those constructed today. The former saw themselves, in a world untrammeled by other forms of communication, as educate institutions in which the needs of the scholar and the generally curious were met in one totally displayed collection wrapped in an appropriate architectural envelope. The British Museum (Natural History) is a particularly fine example.

The effect of nineteenth century policy was to make available to the many what had previously been the preserve of the few, whose privileges ranged from the possession of works of art to the time to undertake scientific research. This century has added other roles to museums, mainly in response to egalitarian thought. First, the range the significant has been extended to include many more classes of material ; second, the private possession of 'significant' material has come to be regarded as antisocial. *Their most obvious manifestation in architectural terms is that new museums have to be constructed with vast stores for material, which would formerly have been either ignored or privately owned. Sadly, there is a danger that architectural effort will still be concentrated mainly on the traditional gallery functions, rather than on the new obligations that museums have assumed.*

Choice of or choosing an appropriate structure for museum had been a matter of serious concern among museum professionals from time immemorial as it was an inevitable issue often confronted by them when it comes to selection of an ideal building to establish a museum. Inception of a museum in a purpose built construction in general is an exception than a rule. The reasons were many and chiefly economical. Supportive

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[1] . Max Hebditch, The management of premises, *Manual of Curatorship*, Butterworths, London, p.498.

evidences of this statement were furnished below as corroborated by leading museologists of international reputation. So, it would beneficial for the curator or a director to be knowledgeable on this matter. With this objective in mind the author seeks to explain this topic as under.

Most curatorial staff will be faced with an *examination* of the architectural needs of an existing museum, often itself of some antiquity. In this context, a number of questions must be asked at regular intervals : is the fabric being maintained properly; is the best use of the available space being made ; can the policies being pursued by the museum be fulfilled in this building, and, if so, for how long?'

Before providing some details on museum projects of international fame, the objective of it may be stated in the outset. Major building projects involving departure from tradition or convention, complete innovation, absolute novelty, at times synthesis of old and new trends are all done after considerable thought, pondering and search ; with an objective of experimenting with new ideas to achieve new objectives or to come over existing limitations or flaws. The author illustrates these examples with a view to explaining the subject principles which are universally applicable.

Hebditch[1] also stated about 'commissioning new buildings' as 'from time to time it does happen that museums are able to *commission new buildings* or to *make major works of adaptation to existing premises.* The disciplines imposed by that process are important to realizing the full potential of existing or proposed assets'.

Yani Herreman[2] expressing her opinion on museum architecture stated the following: 'Highly industrialised countries such as the United States have witnessed over the last few years building of an impressive number of museums, a large proportion of which have recognized as major architectural works. Similar developments have taken place in the Federal Republic of Germany and Japan, among others, while Canada has spent thousands of millions of dollars on new museum buildings. According to Donald McMichael, Director of the National Museum of Australia, a new museum building is erected each year in that country. The picture in the

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[1] . Max Hebditch, The management of premises, *Manual of Curatorship*, Butterworths, London, p.503.

[2] .Yani Herreman, *A new canvas for new creative talent: contemporary trends in museum architecture,* Museum, v. XLI, n.4, 1989, Unesco, Paris, pp.196-200.

developing countries is quite different, both in figures and in timing. For instance, the Latin American boom got off to a late start and doubtless lacked the drive supplied by a strong economy. *It was none the less in those countries that an innovative idea concerning the role of the contemporary museum first saw the light of the day and had the most tangible repercussions, i.e. that of democratizing culture.* Despite the serious worldwide political and economic crisis, the past decade has, overall, witnessed the opening and equipping of an unprecedented number of museums in Africa, the Middle East, Asia and Latin America, *priority having been given to conserving buildings that were part of the national heritage rather than to the construction of new buildings.* Thus even countries with serious economic problems, such as Mexico, have opened numerous museums.

These figures show that in our day and age museums occupy a special place on the socio-cultural scene. And it cannot be denied that the message and the image communicated by those museums are practically expressed in their architecture.

We need to recognize that the *outward form*, the *proliferation* and the *cultural importance* of museums are the result of technical, economic and social factors, in the same way as any other form of cultural expression. Whereas previously the museum was considered to be a 'temple of the muses', and like an icon remained majestically remote from the community by the sobriety of both its exterior and its interior, what are we to call the multiplicity of modern museums, covering such a wide range of styles, shapes, sizes, purposes and functions? In order to grasp the essence of this phenomenon it will be necessary to consider the questions, 'What is a museum?' and 'What does society want from a museum?'

Further, discussing about *the museum's place in society*, Ms. Herreman mentioned that in 1972 an important regional meeting on museums held in Santiago de Chile reached the conclusion that *the museum as an institution should play a genuine and regular part in the life of the community it serves.* She quoted, in 1977 C. Pecquet and P.O' Byrne took a closer look at the following questions: (a) whether the museum would become a factor in socio-economic development or an institution of marginal importance concerned merely with the refinements of life; (b) whether it would increase mutual awareness-and hence closeness and understanding -between different groups of human beings or be yet another valuable and staunch pillar of the economy in the wider context of development as a whole; (c) whether it would turn out to be no more than

a special institution designed to delight the most cultivated minds or an instrument for educating the people; (d) whether it would become a centre of cultural activity or an institution reserved for tourists. She also quoted that, two years later Hugues de Varine made an important point when he declared that culture is being invaded by trade and industry. Collecting works of art is increasingly becoming a commercial activity that takes place in a context where cultural and economic factors are of equal importance and forms part of a universal system in which supply and demand are influenced by advertising, the media and pressure of all kinds.

The questions continue to be asked, despite the fact that innumerable museums corresponding to all the different approaches above have been built . It is here that the architecture has a vital part to play, as *the museum needs be turned into an eye-catching, not to say striking, receptacle for exhibits* in order to carry out its function of publicity agent. The museum becomes *as important an attraction and source of delight for visitors as the works it contains.* Hollein considers the museum to be an institution in which numerous activities take place: *'the architect creates an autonomous work of art intended for works of art and for man'.*

These two different approaches co-exist, and each of them has been adopted by decision-makers, politicians, museologists, architects and museum curators.

Apart from art galleries, *other types of museums command the prestige they deserve by virtue of their numbers, quality and importance.* For instance, natural-history and science-and-technology are a response to the individual's need to keep up with the growing need to keep up with the scientific and technological progress characterising our age. The *new museums of this kind that are being built in increasing numbers can logically be defined as major social services.* **Architects and museologists, however, have begun asking themselves questions concerning the extent to which the new architecture has helped to develop understanding of art and science, the degree to which the building in which it is housed contributes to acceptance of the museum as an institution, whether architecture still serves to build 'monuments' ?** The *reply to these questions lie in socio-museological foundation. It is at this point that museology has a crucial part to play as a conceptual science .*

There is no doubt that the ***architect's creativity and sensitivity are at the heart of a successful project.*** Museum buildings are no exception to this

rule, though nowadays architects *increasingly collaborate with curators and museologists, who are more familiar with museology in general and with museums and their requirements in particular.* Many architects acknowledge the importance of their contacts with the museologist or museum director while working on their designs. Such *interdisciplinary has become possible partly as a result of developments in the field of museology and partly owing to change of attitude on the part of museologists and architectural profession towards society.*

Cultural buildings: a sector that appeals to innovative architects

Museums have always held considerable appeal for architects. The *relationship between culture and building is particularly clear and obvious in a museum,* as is demonstrated by the great works of architecture built to house museums since their beginnings. Our present era is no exception, contrariwise, the construction of museums has come to satisfy a social need than their frequently unnecessary luxury and ostentation.

Just like any other kind of building, museums have changed over the years. These changes were *based on the new activities and functions* of museums. This requires architectural planning to take second place to museological planning. This includes analysis of relationships of various functions, staff requirements and equipment in accordance with more precise plans. **Museological planning techniques, together with contemporary museology, lay bare the complexity and heterogeneity of the museum as an institution and building.**

Architects such as Le Corbusier, Frank Lloyd Wright and John Russell, and including more remote examples such as Leo van Klenze, *drew up lists of aims and requirements*, but it was not until 1960s, that programming methodology enabled museologists to establish their aims with greater accuracy and made it possible for the architect to use form and space in the contemporary museum in a way that served those aims.

In addition to the question of space and form, *the visitors' itineraries and floor plans* favoured by contemporary architecture are dictated by a variety of factors, including in particular :

The ever increasing number of visitors, who in some cases constitute enormous crowds.

Entrance gallery needs to be spacious enough to receive and orient visitors. Mezzanine or corridors connected to it at times, give an appealing view of such portion.

Interior of the entrance hall with visitors, Statts Gallery, Stuttgart.
(courtesy - *New Museum Buildings in Federal Republic of Germany,* Academy Editions.)

The type of visitor, as increasing attention is being paid to handicapped persons, who require special facilities inside the building.

The behaviour of the public.

The activities staged in the museum.

New ways of arranging the exhibits leading to changes in the route taken by visitors.

Certain aspects of conservation of exhibits.

Consideration should be given to the idea of providing a large central area from which visitors can obtain an overall view of the museum, and a rout that avoids giving the impression of a maze. (fig.)

The author agrees with this suggestion and is aware of such architectural advantage. Museum and Picture Galley, Baroda; the Prince of Wales Museum, Mumbai ; both of which are built for museum use have such provision and succeed in attracting the attention of majority of visitors because of their structural beauty and architectural grandeur. Visitors enjoy and appreciate such magnanimity associated with these as they hold them in awe and amazement. Further details and explanation accompanied with illustrated example will be provided in a following chapter that elucidates the importance of having a well laid out route.

The reception area is especially important inasmuch as it outlines the different options open to visitors and gives them the opportunity to get into the right frame of mind for their visit.

The increasingly diversified and specialised internal functions of the museum in terms of both co-ordination and logistics have led to the emergence of areas that are better defined with respect to their size, height, technical requirements, their links with other parts of museum and their interrelationships. For instance the storage area or reserve has acquired specialized and highly specific features to enable it to fulfil its function. The same applies in newer areas such as educational services.

Permanent exhibition areas have been a feature of museums ever since their origin. They too have evolved, and a distinction may be drawn between two different approaches: the use of a large open space, which offers the greatest flexibility by making it possible to change displays, and

that of smaller, fixed, gallery-like areas designed to house specific kinds of works. There is a third, intermediate approach that was first adopted by the Scandinavian countries, whereby a large space is subdivided in accordance with the requirements of exhibition, and small galleries are used for less bulky works.

It should be mentioned that *temporary exhibition* areas are gaining in importance.

The inclusion of security installations in the design process is a further point that reflects contemporary spirit prevailing in architectural planning. Such considerations should take into account of factor as the site of the building itself.

Conservation is undoubtedly one of the branches of museology that has developed the most. The author would like to reiterate its significance and highlight its salient features in terms of its architectural importance. Conservation is broadly of two types - preventive and remedial. Preventive conservation encompasses of a broad spectrum of precautionary measures that include an appropriate shelter. Unless the building is a desirable structure, it defeats even the primitive function of museum as a repository of collection, leave alone of supporting the allied activities based on them. Hence, it would be appropriate to know briefly about the conservation aspect in terms of museum architecture as under.

It was the interdisciplinary co-operation between the architect and the restorer that first arose the importance of the amount of ***lighting***, *the* ***relative humidity*** *and* ***environmental pollution***. It should be remembered that the conditions imposed by collections do not correspond to the requirements of users, whether museum staff or visitors. This major dilemma poses a critical problem so far as the design of display area is concerned, and has had an *effect on the interior layout* of buildings. The same may be said of environmental control there being two trends- use of technical equipment, and *attempt to find more architecturally oriented solutions by the choice of volumes, angles, finishes, colour and other technical elements.* This topic will be discussed in greater detail at an appropriate place in the later part of this text.

The museum as a form of architecture was under much debate for a long past. Several concerned experts belonging to various disciplines expressed diverse opinions on this matter, which are noteworthy ; because of the importance of the subject and its practical and psychological implications.

In addition, it may be said that the design and building of museums is a form of architecture in itself. Independently of the museological aspect, it has now become part and parcel of the architectural profession .

Architect-cum-artist

Yani Herreman[1] quoted Arthur Ericksson, architect of the already famous museum of anthropology in Vancouver, Canada saying that *architecture was much more than merely just another problem for a museum, since it could determine the museum's very structure.* It was required, he went on, not only to take into consideration, equipment and other fittings, but also to make the museum meaningful in relation to the physical* and social environment of those who looked at it and used it.

Yani Herreman[2] quoted the Critic Jane Holtz Kay that, *modern museums have become a blank canvas for the architect to work on.*

Whatever the nature of its contents, the museum building in itself an integrated and complete work of art.

Museums generally speaking have not had happy experiences with architecture. Yet, these remarks are an earnest recommendation based firmly on general international opinion in the museum world that the co-operation between architects and museum professionals should now be closer than ever before. The role the museums are likely to take in the rapidly changing contemporary world will require application of all skills of architecture as well as of museology in order to device new and more appropriate patterns, in museums physical plants as well as their programme'.

Adaptation of museum buildings was one of the earliest and important topics in literature on museum architecture. Stating about adaptation of old buildings Dr. Morley[3] observed, 'Historically, museums had either to

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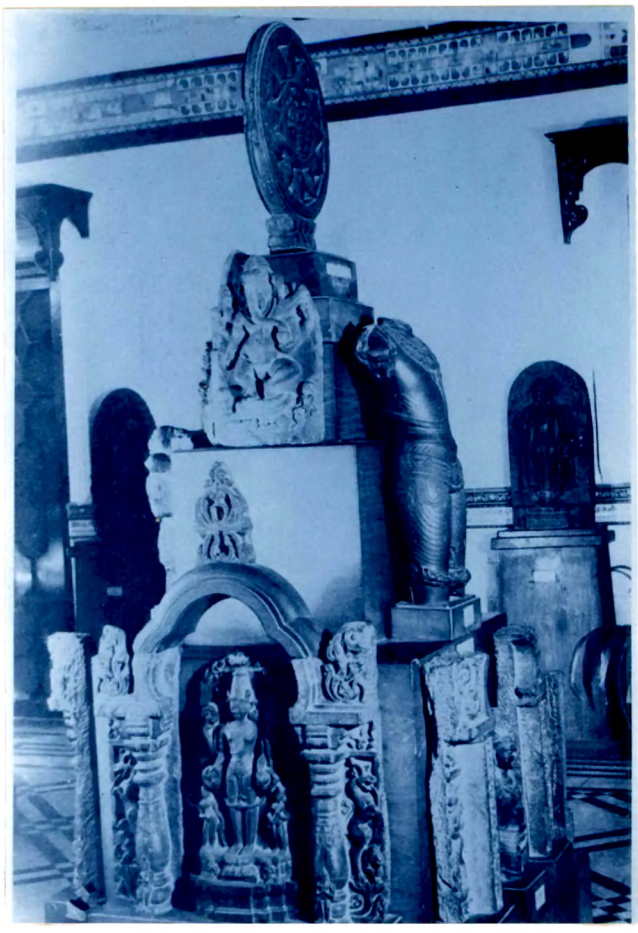
[1] .Yani Herreman, A new canvas for new cretaive talent : Contemporary trends in Museusm Architecture, *Museum,* v.XLI, n.4, 1989, UNESCO, Paris, p.198.
*see figure - a disabled person in wheel-chair visiting the exhibition gallery at the Salar Jung Museum.

[2] . op.cit., Yani Herreman, p.200.

[3] . Dr. Grace Morley, Museums and Architecture, *Museum Architecture,* Museums Association of India, New Delhi, 1971, pp.16-24.

Asutosh Museum, Calcutta. Pala sculptures from Sunderban, grouped on a central pedestal to economize space . This museum of the University of Calcutta in overcrowded temporary quarters, has devised effective, ingenious and reasonably attractive means of showing and storing its collections, used primarily by students.(Courtesy- *Museum*, v.XVIII, n.4, Unesco)

Nehru Memorial Museum, New Delhi. General view of the late Prime Minister Jawaharlal Nehru residence. The memorial museum is on the East Wing and the Central part of the building. Research, archives and library faction will be developed in the West Wing. (Courtesy- *Museum*, v.XVIII, n.4, Unesco)



adapt themselves, their collections and their activities to buildings constructed for other purposes or they have been provided with buildings intended for their use but built without adequate regard for the requirements of contemporary museums (examples-National Museum, New Delhi and the Visweswaraiah Industrial and Technological Museum, Bangalore). In all these cases the result has been a keen struggle of ingenuity on the part of museum people responsible to find ways of exhibiting successfully their collections, while storage and work-space whether for offices or shops, as generally has to be improvised as well as possible, often most inconveniently and illogically from the point of view of efficient operation.

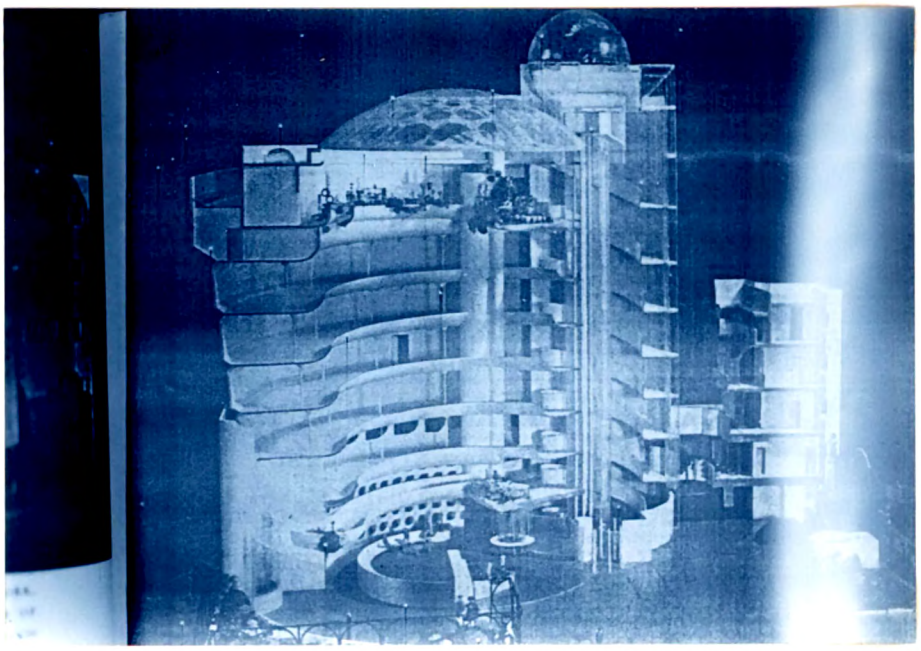
Obviously for historic buildings that have to be used as museums there is little hope of improvement in museological terms (example: The Nehru Memorial Museum, New Delhi). The museum professional therefore, might as well resign himself to the limitation of his quarters and derive whatever benefits he can from their historical associations. The large private residence which may be transformed as ingeniously and completely as possible perhaps more flexible in allowing modifications, but is far from ideal (example of notable success- Birla Industrial and Technological Museum, Calcutta).

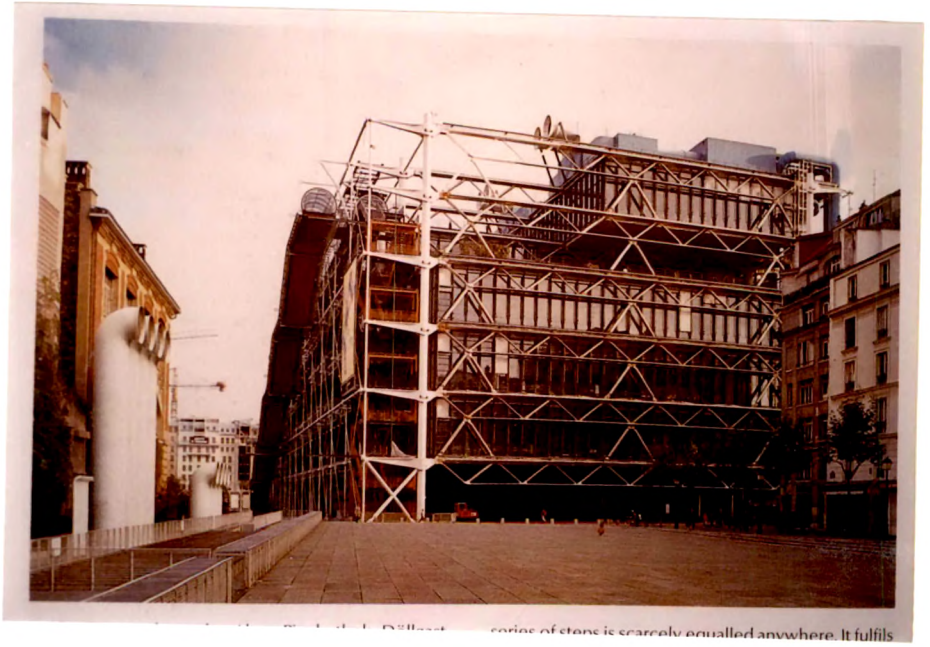
Buildings constructed for museums, but without practical provision to their requirements represent the most difficult problem of all, slightly discouraging always because of misplaced effort, and wasted resources. Among those built for museums in the past couple of decades such buildings probably represent a majority in whatever country one considers.

The fault of defective museum buildings cannot always or even often be placed on the architect. Though it is a common place in museum circles to remark that the architect has ignored or failed to see professional museological advice. Frequently, indeed the fault can be laid directly at the door of whatever authorities commission architects to build museums, or even after museum people to operate them and who when consulted or when guiding architects fail to define clearly their requirements. Museum people do not describe precisely the character of their collection to the architect, the programmes they foresee and their specifications for every part of the structure. They simply do not realise that the architect can interpret in structural terms what they prescribe but cannot on his own invent a building suitable for their needs.

Guggenheim Museum, New York: Model showing interior of Guggenheim Museum of non-objective painting, each circuit of spiral exhibition ramp is reached by plunger elevators.(Courtesy - *Museum Buildings*, v.1, The American Association of Museums)

Pompidou centre, Paris. (courtesy - *New Museum Buildings in Federal Republic of Germany,* Academy Editions)





series of steps is scarcely equalled anywhere. It fulfils

It is not necessary for museum professional in describing his requirements, should be able to suggest their architectural form, though it is helpful if he can do so to some extent. What he must do is to have clarified in his own mind the character of his museum, the programme planned for it and the precise functions and the services to be provided for it in his projected building. On the basis of this information can then be expected to find a suitable architectural expression for what the museum man requires, which will be pleasing but also practical and in exact correspondence with the use and programme planned.

Examples of museums by architects of outstanding international reputation known to everyone are the Guggenheim Museum New York by Frank Lloyd Wright and the museums by Le Corbusier, the Museum of Western Art in Tokyo, the Sanskar Kendra in Ahmedabad, and the central museum, Chandigarh. Those in charge of the Guggenheim museum have come to terms with it, partly as a result of adding another building for utilitarian functions. The museum in Chandigarh is by far the most satisfactory as well as the last design of Le Corbusier's three museum buildings and could be so recognised before the actual installation was begun and had perhaps modified to some extent his own intentions. The Museum's installation was successful and extremely handsome and rich. The Chandigarh museum taken into account in a much more practical manner varied museum requirements in its space allocation, its organisation, its circulation than had been the case in Tokyo while the Ahmedabad building was intended as an exhibition hall primarily and so was left as somewhat rough open space that has been adapted as the architect undoubtedly intended It to be to diverse changing exhibition and museum requirements.

The simple the '**shell**' that the architect provides for the exhibition areas the better it would be for them. There should be a provision for open space of pleasing proportion and agreeable light. There is no extravagant demand, for there has been recently a tendency to plan galleries with flooring space(example : Guggenheim, Pasadena and Chandigarh) originally.

According to R.C. Chandra,[1] 'the requirements from the point of view of exhibitions should be communicated specifically to the architect so as to enable him to envisage the provisions for the exhibition with exactitude.

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[1] . R. C. Chandra, Demands on a museum of today and their effects on the Museum Design, *Museum Architecture*, Museums Association of India, New Delhi, pp.34-36.

For instance, the architects having a pre-knowledge of the requirements can design concealed systems for the supply of electricity, gas, water and other installations fro the demonstration of exhibits in the exhibition hall.'

He further stated, 'discussions on the requirement and necessities of museums will provide a helpful guideline for the architect in the construction of the buildings that would easily lend themselves to the purpose of museums; otherwise the difficulties encountered are too many in setting up a museum of a laudable standard'.

Holding discussions during the Conference on Museum Architecture, Shri H. Rahman,[1] Chief Architect, C.P.W.D. drew the attention of the house to the difficulties of the architects in collecting information needed for planning museum buildings. He felt it necessary that the museum authorities should help architects by giving correct picture of the requirements. Regarding the specially trained "museum architect" he informed the house that no-where in the world, any training is given to architects for specialising in Museum Architecture. He felt better results could be obtained through co-operation and team-work.

General Recommendations[2]

3. Museums Association of India should request the Govt. of India and the Central Advisory Board of Museums:
(e) to give special grants for the maintenance and upkeep of existing buildings since maintenance is as important as constructing new extensions or new buildings.

Session I

Recommendations:
1.4. Functional study of important spaces as listed below should be made for preparing standards.
(1) Study and research rooms for different types of collections.
(2) Storage for reserve collections
(3) Work-shops in general.

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[1]. H. Rahman, *Musuem Architecture*, Museums Association of India, New Delhi, 1971, p.45.

[2]. Recommendations, Proceedings of the All India Museums Conference, Feb. 1-4 1971, *Museum Architecture*, Museums Association of India, New Delhi.

(4) Conservation Laboratory.

(5)Work-shops (special) for natural history collections, science models etc.

1.5. *Problems of remodeling* existing to suit modern functions demands immediate attention. A committee should be set up to study the problem and prepare proposals and programmes. It is necessary that the committee should compromise of architects and museum authorities.

1.7. While *choosing the building materials* for walls, floors and ceilings, as well as lighting fittings, their easy maintenance and upkeep should be a consideration.

1.8. *Design of galleries* should be considered in relation to the collections to be presented in a particular gallery. The design of galleries should be based on the lighting fixtures available in our country.

1.9. *Climatic requirements* of a particular region, i.e. hot and humid zone or hot and arid zone should be considered while laying down the building standards.

1.10. *Standards for building* protection against termites, fire, thefts etc. should also be prepared.

1.11. *Selection of site* is important in relation to the accessibility to the museum as well as the transport system in the city or a town. Site should be chosen taking into consideration the possibilities of expansion of the museum building.

Session II

11.1. *Circulation of visitors* is important in public areas. Entrance hall should give direct access to all the public areas like galleries, auditorium, library educational activity rooms, cafeterias, rest-rooms, book-shops or sales room.

11.2. Object should have independent facility for entrance and exit, adjoining packing-unpacking rooms. The entrance for objects may be adjoining the staff entrance or the staff can use this in small museums.

11.3 Circulation of the museum-staff through the museum as well as through the work-rooms, reserve collections and offices is equally important.

11.4 There should not be too many entrances in a museum building.

Session III

3. Security Measures :

3.1 Fire and burglar alarms should be installed at least for important museum areas like reserve collections, valuable collections, jewellery, coins, rare and valuable objects, conservation laboratory etc.'

Smita Baxi[1] quoting Philip Johnson's words, **"Let us have grand museums and let them be among our monuments."**

Monumentality of building is one among the much debated and disputed topic all throughout. The author provides the following account of the various views expressed by several experts and authors.

Markham and Hargreaves[2] observed 'It is interesting to read an account of one of the best of these museums, written within a few months of its foundation, by Rudyard Kipling. In his Letters Marque he gives the following description of the Jaipur Museum:

> A wonder of carved white stone of the Indo-Saracenic style. It stood on a stone plinth, and was rich in tone tracery, green marble columns from Ajmir, red marble, white marble colonnades, courts with fountains richly covered wooden doors, frescos inlay and color. The ornamentation of the tombs of Delhi, the palaces of Agra, and the walls of Amber have been laid under contribution to supply the designs in bracket, arch, and soffit, and stone-masons from the Jeypore School of Art have woven into the work the best that their hands could produce. The building in essence if not in the fact of to-day is the work of free-masons. The men were allowed a certain scope in their choice of detail, and the result was varied forms. But it should be seen to be understood with that museun, as it stands in those Imperial gardens. Every foot of it, from the domes of the roof to the fountains in the courtyard, was worth studying. Round the arches of the great centre court are written in Sanskrit and Hindi texts from the great Hindu writers of old, bearing on the beauty of wisdom and the sanctity of true knowledge.
>
> Internally, there is, in all honesty, no limit to the luxury of the Jeypore Museum.The floors are of dark red chunam, overlaid with a decrepit and silent matting; the doors, where they are not plate-glass, are of carved wood, no two alike, hinged by sumptuous brass hinges on to marble jam and opening without noise.

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[1] . Smita J. Baxi, Exhibition of Museum Architecture- In India and Abroad, *Museum Architecture,* Museums Association of India, New Delhi, p.83.

[2] . Markham and Hargreaves, *Museums of India,* The Museums Association, London, 1936, pp.7-21.

Government Museum, Madras. Extension of the new Natural History Gallery, built with the assistance of a central Government subsidy. Functional style, but in harmony with the roof line and general contour of the older wing to which it is symmetrical.
(Courtesy- *Museum*, v.XVIII, n.4, Unesco)

New extension being built at Museum and Picture Gallery, Baroda; trying to be in conformity with the old building in its external appearance.

There is no speck of dust from one end of the building to the other,. and the Curator's office is a veritable office - and not a shed or a bathroom, or a loose-box partitioned from the main building. These things are so because money has been spent on the Museum, and it is now a rebuke to all other museums in India, from Calcutta downwards.

The system of museum is complete in intention, as are its appointments in design'.

Further commenting upon museums in general they remarked 'India has but a few ideal museum buildings - few cool spacious inviting temples of the Muses such as one sees in many American and European cities. From the outward point of view a few of them can be compared architecturally with any, and foremost among those of beauty of design is that at Dehra Dun. It needs the inspiration of a poet to produce a museum worthy of such treasures as are here and with them something of the tramp of the legions and the culture of long past ages. Saranath, too, has an attractive and appropriate building.

One of the pleasantest museum buildings in India is that of the newly-erected Sardar Museum in Jodhpur, designed by Mr. G.A. Goldstraw. In the design of this building care has been taken to provide adequate accommodation for the staff, while the public galleries are well lighted and well proportioned. In course of time doubtless one of these galleries will be required for reserve collections.

The Baroda Art Gallery is also a very admirable building, from the interior point of view, but the exterior of this and its adjacent museum shows a marked contrast of style.'

The author found it difficult to agree with the view of these two experienced veterans on Museum and Picture Gallery Baroda. It is a well known fact about this institution that Picture Gallery was a later addition after a time gap of twenty years to the main building of Museum. There is no perceivable contrast in style except in external decoration, embellishment and ornamentation. This could be because of the reason that Museum was supposed to form the frontage and entrance to the visitors according to the initial planning, with the Picture Gallery relegated to the background. Now the second phase of extension is in progress behind the Picture Gallery, marked by the completion of hundred years of the existence of this institution. Even this unit is also being built in conformity with the features of Picture Gallery.

'For internal suitability the new galleries at Bombay can hardly be surpassed, with their soothing proportions and quite effectiveness.

Would that all museums in India had such lovely settings, but others can boast only gingerbread palaces, fantastic and bizarre, or gloomy prison-like edifices where devitalised aspirations of past sculptors stand, awkward and dim, in galleries more suited to be mausoleums'.

Discussing about professional assistance, Satya Prakash Srivastava[1] stated, 'The Ministry of Works, Housing and Supply has agreed that one of their engineers who has specialised in Museum Architecture, will be available for giving necessary *advice and guidance* to State Governments and museum authorities regarding their plans for *building repairs and construction,* provided, his expenses on T.A. and D.A. are met by the Minister of Scientific Research and Cultural Affairs. This proposal will be implemented and all museum authorities informed accordingly as soon as the main scheme of giving financial assistance to museums has been finalised'.

Discussing about functional suitability of a museum building Bhoumik[2] stated'In the past, *palaces, big churches* and forts were used as museum buildings, which *evidently were not designed originally for museums. Many hazards have been recorded* in the past as a result of housing cultural property in these *unsuitable* buildings. By unsuitable museum building I mean a *building which is not properly designed and constructed* for protecting the museum collection. In modern days, the concept of the museum building has changed considerably. To us the collection is of prime importance. Museum buildings *must provide first of all everything necessary for the preservation and protection of the collection,* and then they must provide adequate facilities for carrying out smoothly educational activities and other affairs of museum administration.

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[1] . Satya Prakash Srivatsava, Old and unfit buildings of museums -their adaptation to modern museum techniques, a paper presented at the UNESCO Regional Seminar on *Development of Museums* held from January 31 to February 28, 1966, India (special series document no.12 a).

[2] . S. K. Bhoumik, Design of a museum building and preservation, *Conservation in the tropics,* International Centre for Conservation, Rome, 1972, p.75.

FUNCTIONS OF A MUSEUM BUILDING

A museum building has certain definite functions and specific purposes to serve. It must act as a safe shelter for various collections by providing necessary environment for the preservation of collections against various forces of decay such as insect pests, direct sunlight, dust, humidity and temperature. It must act as a place for easy functioning of museum activities and as a comfortable, delightful and attractive place for visitors. It must also act as a protective shelter against the danger of theft and fire.

SPECIAL CONSIDERATIONS

Much has been written about the special requirements of a museum building, such as the location, exterior, galleries, work-rooms, parking space, etc. but not much has been published regarding the effects of dampness, heat, light, insect pests, and industrial atmosphere, which are mainly responsible for the deterioration of museum collections. Even some of the important books on museum architecture make no mention of the responsibility for preservation and protection of museum collections against various forces of decay that are encountered inside museum buildings. The author therefore wants to discuss this aspect in greater detail at later part of this text. However, an elementary idea of it is given by quoting an author in the following.

According to Bhoumik's[1] opinion, 'that the aim of museum architecture is not merely to create a pleasant place for the education and entertainment of visitors but also to provide adequate environmental conditions required for keeping various categories of museum collections in a good state of preservation. While providing facilities for carrying out museum activities museum buildings must at the same time act as a shelter for protecting museum collection from *actual and potential hazards.* It is for the architect and building engineer to make *use of all modern industrial products* to achieve the aims already stated ; and for this reason *preference should be given to materials that have already been tested'.*

Regarding **Planning and Expansion** about National Museum, Grace Morley[2] stated, 'already in the temporary quarters of the great Durbar Hall

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[1] .op.cit., Bhoumik, p.80.

[2] . Grace Morley, National Museum, *Marg,* v. XIX, n.1, Marg Publications, Bombay, 1965, p.36.

and adjacent rooms of the Rashtrapati Bhavan, in which the National Museum was housed from 1949, it was shifted to its opening in the first unit of its own new building late in 1960.

It had been hoped that by this date the second unit of the building would have been completed and ready for installation of the collections, which continue to grow. The Emergency of 1962 disrupted this plan. The national Museum, therefore, has turned its attention to making as effective use as possible of the space it has at its disposal in the present unit'.

Describing about Salar Jung Museum, Devkar[1] stated, 'Perhaps, the greatest responsibility of the Salar Jung Museum Board is to see that the new building of the museum, on which the Government of India is spending large sums of money is built to suit the requirements of a modern display in new settings and showcases.

The present building of the museum, which is the ancestral palace of Nawab Salar Jung, is not at all suitable for a museum. It has already been declared unsafe both for the valuable exhibits in the museum and for the visiting public. It is therefore necessary to vacate it as soon as possible.

The work of construction of the new building was started by the P.W.D. of the Andhra Pradesh Government in 1962. The building, which will be constructed in three phases, commands an extensive area of about 11 acres on the southern side of the river Musi'.

Witte *notebook*[2] under the heading 'Architects' provides an interesting facet regarding style. It is a known fact and general observation by many that styles change with the shift in the likings and tastes of the large segment people in a given society and their changing needs and modes of living or lifestyles. It is also true that developments in construction technology and invention of new building material further contribute to development of new styles. Going by the premise, development in allied fields of construction, has its influence on evolution of new styles. This fact is corroborated by a simple but an effective example by Witte Museum publication as below.

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[1]. V.L. Devkar, Salar Jung Museum, *Marg*, v.XIX, n.1, Marg Publications, Bombay, 1965, p.44.

[2]. Witte Museum, *Museum workers notebook*, Texas, 1964, p.1.

Styles in architecture change with advances in other building fields. Lighting and air conditioning have made many changes in Museum design.

In older, high ceiling Museums, the dropped acoustical ceiling with a light trough about the edge offers one way of bringing old galleries up to date at a minimum of cost.

Having discussed style and adaptation in short, the author would proceed to discuss about evolution of the concept and construction of 'museum building' as under.

Alma Wittlin[1] stated, 'the public museum as we know it, is a complex phenomenon. There is first of all the variety of contents. There is secondly the variety of environment in which the objects are displayed- a palatial structure with a wealth of decoration or a humble abode of a low-ceilinged rooms, or a large building boasting soberness'.

Ms Wittlin[2] further stated, 'in any case some of the inside walls should be movable and allow a certain adaptability of rooms to different purposes. No exhibition room will suit a variety of exhibitions, which will differ from each other in extent and in the character of specimens.

The contemporary Public Museum is a living, changing organism composed of various parts, each of which demands an adequate expression in architecture.

Green spaces or courts separating, and connecting, the single buildings, will do justice to both the exhibits and the visitors who on their way from one section of the museum to another will gain new freshness while passing through a court or a small garden'.

According to Molajoli,[3] 'the word 'museum' covers a wide range of possibilities, and the architect commissioned to design must make clear- to himself first of all- not only the specific character of the museum he is to

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[1] . Alma S. Wittlin, *The Museum its history and its tasks in education*, Routledge & Kegan Paul Limited, London, 1949, p.9.

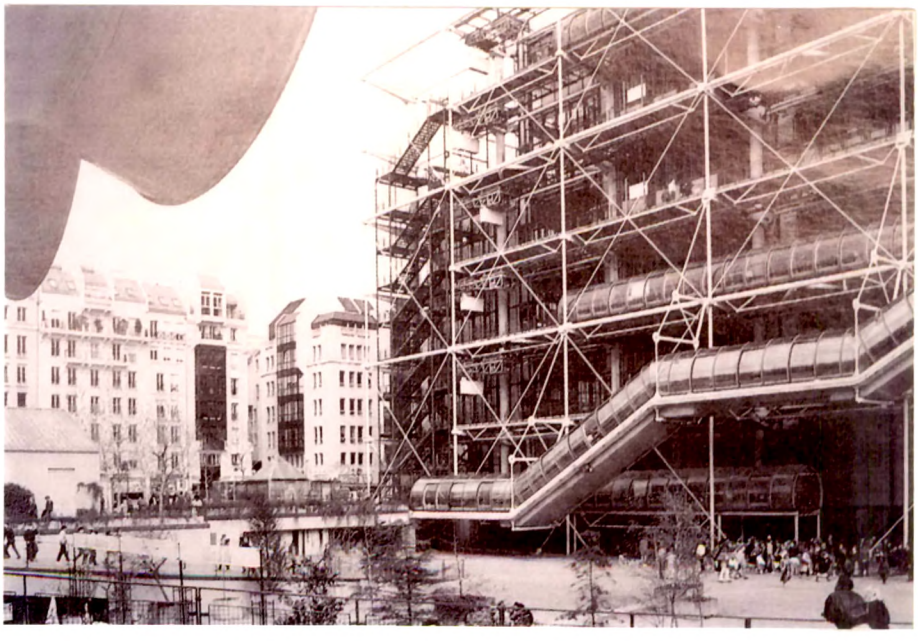
[2] . ibid., pp.209-210.

[3] . Bruno Molajoli, Museum Architecture, *Organisation of museums- a practical advice*, Unesco, 1960, Paris, p.148.

Alte Pinacothek, Munich. One of the earliest public museums of the world built by the renowned architect Leo von Klenze. Pictures like these have their archival value. (courtesy - *New Museum Buildings in Federal Republic of Germany,* Academy Editions)

Paris' Pompidou Centre (Courtesy- *Museum News*, v.67, n.1, American Association of Museums)

17 Südfassade Ausschnitt/South Front, Partial View



build, but the potential subsidiary developments and related purposes which can be sensed and foreseen in addition to the dominant theme.

The future may see substantial changes in our present conception of museums. If the architect who designs one allows in his plan for easy adaptation to new fashions, new developments, new practical and aesthetic possibilities, his work will be all the sounder the more enduring. A museum is not like an exhibition, to be broken up after a short time and brought together later in an entirely different form There should be *nothing 'ephemeral' in its character or appearance*, even where the possibilities of changes or temporary arrangements is to be contemplated.

These considerations should be borne in mind when the architectural plans for the building are drawn up'.

Klotz[1] while discussing about the origin of subject specific and purpose built museums observses 'This tradition seems to have borne fruit right up to the present day.'

Hans Dollgast's renovative rebuilding of the Alte Pinakothek in Munich produced one of the most significant symbolic buildings of the post-war era, the high standing of which has still not been properly appreciated

Museums are, in fact, building projects which have mobilized the imagination to a much greater extent than theatres and opera houses, and which have often led to highly original architectural solutions.

Though discouraged in general exceptionally adapted buildings offer several advantages associated with them. It would be advantageous to be aware of such unexpected benefits and make best use of such desirable structres and features. In the case of Alte Pinakothek in Munich, the ruins of the historical building were preserved in contrast with the new. Leo van Klenze's existing architectural shell determined the new building, giving the impression of a reconstruction of the ruin of the old. The meaning of destruction and rebuilding in its most general sense can be experienced most intensely on contemplation of this facade. The staircase of the Alte Pinakothek is particularly impressive. The *noble simplicity of the long series of steps is scarcely equalled anywhere*. In the Alte Pinakothek it is not the *expansive tranquillity of a broad dome* that bids the visitors

[1] . Henrich Klotz, *New Museum Buildings in Federal Republic of Germany*, pp.7 -22.

Stairways laid of brick leading to a museum seen, hidden in the background.

Hans Holleins Municipal Museum from its coffee shop.
(courtesy - *New Museum Buildings in Federal Republic of Germany*, Academy Editions)

-Landscaping is part of external beautification of museum building.

proceed to the collections within, but a renovated staircase which invites the visitor to climb it, preparing him step by step for experience of art that awaits him. Pinakothek thus remains as a form of architecture which prepared visitors for the experience of art in the manner of the 19th century, not so much "didactically" as "emotionally". It seems that this aspect of museum building is once more permissible today without necessarily being irreconcilable with the functions of education and enlightenment.

The most prominent museum buildings of the present day are in strong contrast to this architecture of "purifying" preparation: the Centre Pompidou in Paris (fig), for example. Here the polarity of the experience is reversed: the experience is that of a type of architecture that provides a completely different kind of escape from the workaday world, impressing the visitor with technoid miracles. The huge supporting structure of the outer shell has already prepared the visitor for his removal from everything to which he is accustomed, he is slowly lifted above Paris in a transparent escalator tube, thus leaving the last blemishes of everyday normality far behind him. This, too, is a "preparatory adjustment of mood" , but this self-elevation from the common round only serves to emphasize all the more the mundane nature of the gadgets and the technoid magnificence.. One may ask whether patriarchal staircase does not provide a more suitable approach to art? These considerations lead to the general question as to the actual ideas as to the actual ideas behind museum architecture , and what concepts of the experience of art have found their expression in the actual museum building. The author could not come across a better example to juxtapose two classic examples of tradition and modernism than the above mentioned museums.

The contemporary museological learning on museum architecture would be either incomplete or insignificant unless a subject specialists includes some internationally renowned examples in a detailed discussion on this matter. Of course there views in favour, neutral and against them. But what is important with all of those is the attention they have secured ever since their inception as unique and novel examples of experimentation and harbingers of unorthodox approach.

It may be necessary here to state that across the globe -classic, modern museum buildings co-exist with various combinations and permutations and with that of intermediate approaches ; in order to derive or achieve some specific objectives and goals. It would be useful to know the analytical views on a few museums of this kind as they merely do not defy

conventions but proved to be successful in attaining the desired goals. With this view in mind, the author seeks to quote a few examples as under.

One is not always so clearly confronted by the basic idea of function as in the comparison between the Alte Pinakothek in Munich and the Centre Pompidou in Paris. There are, additionally, design conditions that do not spring from the primary requirements of the function of the building as a museum but are subject to ideas other than the mere conditioning of the exhibition rooms.

The Historisches Museum in Hanover which was constructed during 1960-66 is particularly noteworthy for its position in the municipal context. Hanover is a historical city.

From the museological point of view, the *successful use of space* in this building was positive enough, but more important still was the way in which this building *fulfilled the requirements of town planning* and the preservation of ancient monuments. *This is an example of how a public institution like museum can be developed out of an old building without having to renounce the handsomeness and monumental character.* The architect's solution is a reminder that a museum building not only has to take into account the functions of a museum, but its effects on *urban surroundings, its external appearance* within the town-planing concept, is also of importance. The Historisches Museum in Hanover shares this requirement with every other public building and, unlike most, provides a model solution to the conflict between *awe-inspiring size* and *human moderation,* between *individual independence* and the urban context.

Again and again architects are urged to design museums that will not daunt the potential visitor, that will not withdraw into themselves with a gesture of rebuff but which will appear to open their arms wide in welcome.

Hans Hollein's Municipal Museum for Monchengladfach, planed since 1972 but completed almost ten years later in 1981, destroyed the traditional concepts of museum building with respect to both the building typology and atmosphere of the museum.

Whereas a museum had, until then, been regarded as a building which could be subdivided to a greater or lesser degree, the concept 'building' would seem out of place in the case of Hollein's museum in Monchengladbach. More suitable would be the term "landscape of

buildings". Instead of a unified structural block, a wide range of different individual buildings are placed in complex relations to one another, producing a varied "adventure playground" representing, both externally and internally, a kind of landscape of structures and space.

All these buildings differ from one another in material form, and the result is a lively and varied ensemble which completely contradicts the conventional concept of a building.

The pedestrian walkway leads over and through the group of buildings, down a terraced slope and into the park.

The interior of the museum is as varied as the exterior.

Apart from the free-flowing main exhibition hall there are other rooms. There is also circular skylight spaces and rooms with undulating walls. In addition to that there are relatively neutral north-lit rooms. The intention is no longer the flexibility of the large hall with movable partitions in the sense of modern building but, rather, a wide variety of different room "characters" which are specially suited to various different art objects. The result of this arrangement is a varied, complex, whole characterised by a wide range of spatial individuality which, as an aesthetic environment, stands in fundamental opposition to traditional museums of art. *As required by the commissioner of the building and head of the museum, Johannes Cladders, the museum itself is a work of art.* It is no longer a neutral space container with neutral backgrounds for the exhibits, but exercises an influence of its own on the exhibits by providing as suitable a background as possible.

For Johannes Cladders the museum has become a recreational facility that has assumed a great many features attributed to other institutions in former periods of history.

"A museum distinguishes itself from all other art-presentation media in that it shows the work of art itself. This defines the museum's task. It is primordial, irreplaceable and indispensable. The museum can only be measured by the degree to which it fulfills this task. The museum is the home of art.

***The art of the 20th century is internationally* museum oriented.**

By facing up to this intention, museums come into conflict with the competitive claims of art.

Art is basically, always and in every way of a space-defining nature.

After having separated itself from architecture, art became an autonomous claim that had to be put forward in a separate way.

Architecture detached from art claims to be an autonomous work of art.

This conflict culminates in the museum. The museum can only come to terms with this conflict - and thus also with itself- to the extent in which it declares itself to be a work of art.

The museum is the potential total work of art of the 20th century.

It becomes such to the extent in which it succeeds in uniting the spatial claims of architecture with those of art."
(Johannes Cladders in an exhibition catalogue of the Galerie Ulysses, 1979)

Cladders and Hollein are the exponents of a new concept of the museum. If the museum is the point of concentration where the most varied forms of visual experience are focused, then, according to this concept, the museum should be something other than a neutral container. The museum becomes a huge scenario into which the individual work of art is fitted as far as possible into the total work of art which the museum represents. In such a museum the role of some works art, which are now no longer presented in an abstract setting but have become part of an overall presentation, will change. Not the autonomy of the work of art at any price is the goal here, but the deliberately staged correspondence between space and work of art. This is not, however, done with absolutist fervour but remains just one of the exhibition possibilities.

The contemplative and critical experience of art is joined by the enjoyment of the aesthetic scenario. Here one also recognizes the attempt to replace the association of a work of art with a cult environment- as the altar was inseparable from the cathedral, the cult object from the cave, the gallery painting from the palace - by the attachment of the picture to the museum, as a spatial arrangement.

Interior decoration and design of a gallery. An artistic and tasteful arrangement of a gallery would enhance the appreciation value of its exhibits.

Interior arrangement of a museum gallery.
(courtesy - *New Museum Buildings in Federal Republic of Germany*, Academy Editions)

The fact is that such an attempt might open up new perspectives and new programmatical foundations for future museum construction is as indisputable as the associated danger of devaluating the work of art by "staging" it against an architectural background. Artists themselves who insist that their work be presented as neutrally as possible, have already put their fingers on this sore point.

When compared to Monchengladbach museum, the exhibition rooms of the extension to the Staatsgalerie in Stuttgart seem very conventional. They are indeed deliberately adapted to the gallery rooms of this 19th century museum building in Stuttgart, although the proportions of the new rooms are different and the skylight roof, with its modern techniques, guarantees completely even illumination.The strict sequence of new rooms, which also maintain a considerable degree of neutrality, links onto the 19th century suites of rooms.

In contrast to the classical arrangement of the interior, the exterior of the new Staatsgalerie represents an undulating landscape. The large rotunda in the centre, in particular, forms an independent element that determines the mid-point of the entire complex yet breaks up the severity of the whole by possessing, on one side, a pedestrian passageway as a public path through the rotunda. The individual elements of the new building are sharply contrasted with its undulating and skewed glass wall and the facade. It is possible here to talk of a landscape of buildings, particularly as long-drawn-out ramps give access to upper piazza, turning the circle of the rotunda into a public circulation area.

The materials used are of the greatest significance to the appearance of the building. Large blocks of yellow and brown stone cover the facade surfaces.

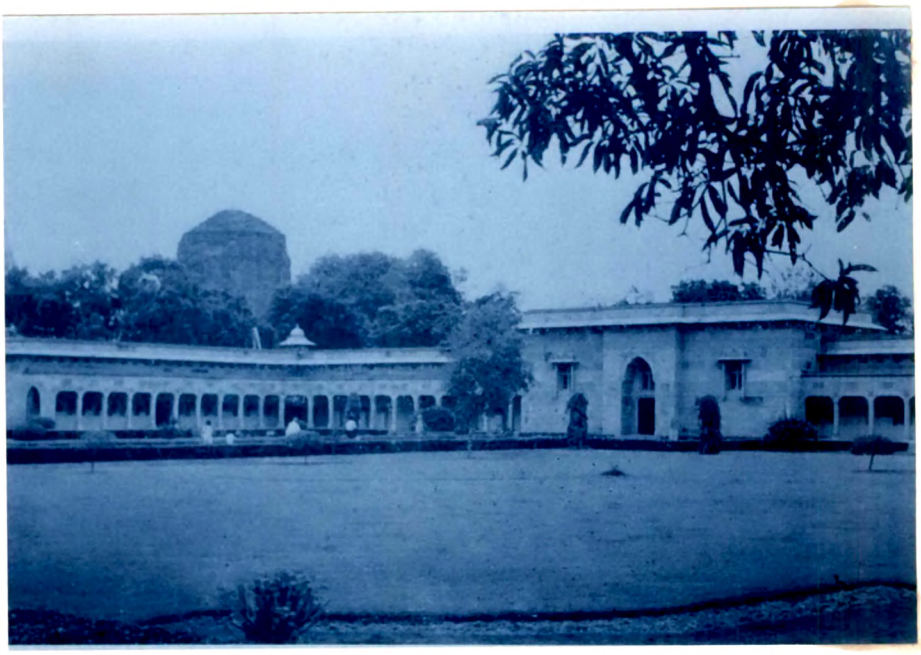
Further details of this point are discussed along with illustrated examples, in the last chapter of this text under relevant heading.

Markus Lupertz[1] in his article on Art and Architecture wrote, 'Architecture , which is often called itself the mother of art.'

[1] . Markus Lupertz, Art and Architecture, *New museum buildings in the Federal Republic of Germany,* Academy editions, London, 1986, p. 30.

Saranath Museum (near Varanasi), Uttar Pradesh. View of the building showing upper part of stupa in background left. (Courtesy- *Museum*, v.XVIII, n.4, Unesco)

View of the first hall showing Ashoka's Lion capital which is India's national emblem. (Courtesy- *Museum*, v.XIX, n.4, Unesco)



Long ago, late Dr.Moti Chandra[1] stated in his article, 'the planner will have to impress that the modern museums are not only the treasure houses of our ancient culture to be looked with awe and reverence by common man, but great centres of education where the children and adults alike could receive that cultural instruction which no school could ever hope to give.

An essential pre-requisite for the advancement of museums in this country is proper accommodation. The buildings in which most of our museums are accommodated are exactly what they should not be. Most of them are dingy affairs with no proper lighting and gallery space; others which are comparatively recent in date have also not planned properly and much money has been wasted on external decoration.

There are, however, a few museum buildings planned by the Archaeological Department which meet the modern requirements of a museum to a certain extent. (e.g.; Saranath Museum).

It is, however, necessary in view of many new museums of all types being started, to know the essential features of modern museum architecture. The architectural plans of the new museums in most cases will be prepared by the Government architects, but they are no specialists in museum designing and, therefore, it is the duty of the museum authorities to discuss the requirements of their museum with reference to proper lighting, floor space, safety measures, etc. so that while planning a building the architects could bear those points in view. A note of warning should be struck here with regard to the importation of foreign design and implementing them in toto'.

Besides the individuals, various committees that were appointed to review various museum matters, focused their attention on the importance of museum architecture and made their remarks and recommendations and noted their suggestions and comments as under.

Museums Review Committee Report headed by Moti Chandra[2] made the following observations. The committee endorse the views expressed by

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[1] . Moti Chandra, Museum Architecture, *Journal of Indian Museums*, v.3, Museums Association of India, New Delhi, 1952, p. 42.

[2] . Moti Chandra, *Museums Review Committee Report*, Government of India, 1970-71, pp.15-16.

experts in this field that 'the building construction for housing museums should be designed with sufficient scope for flexibility. In other words, it must be so designed that later rearrangements of its interior or subsequent expansion become possible. The architecture should be functional so that it meets and expresses the respective needs of display rooms, services and reserves'.

The Committee also endorse the view of the Expert Museum Committee that 'Government should give high priority to those museums who may be in need of assistance in regard to repairs and alterations to preserve their existing collections and where these are in danger of being damaged due to unstable structures'.

From the answers provided by different museums to the questionnaire circulated by the Committee, the Committee noted that 'in most of the cases the administrative office had encroached on the existing galleries' space. It was also observed that the reserve collection and the storage space available in different museums is almost insignificant'.

The Committee recommend that 'special consideration should be given by the Central Government for giving financial assistance for proposal to put up additional wings for housing reserve collections or for providing work-rooms, laboratories or storage space or auditorium'.

Editorial[1] of *Museum* quoted Kenneth Hudson, a noted author of museum literature referring to Mrs. Baxi's definition of dream museum , in his book 'Museums for the 1980s' - A Survey of World Trends as 'it should be easily accessible and not too far from the town centers. A site within a park or 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 a good amount of natural light and ventilation. The style of the building should be representative of its age and should be at least contemporary, if not ultramodern. The interiors of the exhibition galleries as well as other related rooms should be architecturally pleasing, but should not be the centre of attraction and should be subordinate to the purposes in view. (Smita J Baxi, 'Planning in museum building', in Baxi and Dwivedi (eds.), Modern Museum : Organization and Practice in India, 1973, cited in Kenneth Hudson,

[1] . Editorial, *Museum* ,v. 49, n. 4, 1995, Unesco, Paris, p. 3.

The Japanese Pavillion at the Los Angeles County Museum of Art. (Courtesy- *Museum International*, v.49, n.4, Unesco)

External curved glass wall of the entrance gallery, Statts Gallery, Stuttgart..
(courtesy - *New Museum Buildings in Federal Republic of Germany,* Academy Editions)
-an acclaimed example of designing.

Museums for the 1980s - A Survey of World Trends, Paris, UNESCO, 1977.)

This straight forward formula for a successful museum building was already beginning to look deceptively simple when in 1989 *Museum* (know known as *Museum International*) took a close look at recent developments in museum architecture inspired in large measure by the unprecedented explosion in museum construction and renovation that was the hallmark of 1980s. Eight years later the museum boom continues unabated and many of the trends that were beginning to appear in the 1980s are now full-blown phenomena and have undergone unforeseen mutations. What is strikingly clear however is that the architect has emerged as a central figure on the museum landscape and the building has become far more than an edifice housing a collection. Designing structures to meet new museum needs and expectations has very often evolved into designing structures that create new needs and expectations, which place the museum institution in the forefront of leisure time choices and tourist options and which say loud and clear, 'look at me. I'm worth visit in my own right.' As Hugh Pearman* an architecture critic for the *Sunday Times* puts it : 'the old argument resurfaces : what is a museum or gallery for? to be relatively modest container for a superb collection, or to be an architectural landmark where the contents, whether superb or lackluster, or incidental ?' (Hugh Pearman, 'An Ace Building with a Quite Nice Collection', Sunday Times (London), 2 June, 1996.)This problem lies at the heart of the museum debate today and its implications are far reaching. To quote Kenneth Hudson once again : 'What a museum is attempting to achieve has become more important than what it is. This trend, which is unmistakable makes the definition of a museum increasingly difficult and perhaps increasingly pointless'* (Hudson, op.cit.) *Architecture thus appears as the catalyst for a process of profound change* whose end results are far from certain. For this reason one is convinced of the need to explore not merely what is new in museum architecture itself - the forms, materials, lighting, display- but the underlined tendencies in late- twentieth-century culture that are explicitly or implicitly expressed in these structures.

A general understanding about museum building and its philosophy would naturally lead to a thinking about the components of a museum building and thought process behind their construction.

Discussing about 'Structural Design' Jani[1] stated the following: 'In earlier times the structures for museum buildings had to be evolved on the basis of known principles, of structural designing which imposed certain restrictions in organization of spaces in the building. The modern advancement in structural designing have made available greater possibility in this direction as well for achieving economy in cost of construction. Larger spans can be provided resulting in greater flexibility in planning and ease in making additions and alterations. Lighting and ventilation can be organized in a better way, surface treatment of require type can be ensured, provisions of services and utilities can be arranged at required places and, therefore, the quality of building can be improved. Advancements in construction technology supported by development in building materials and building products are being applied to museum architecture. One notable development in the planning, designing and construction of tall buildings and heavier structure instead of low rise buildings. *The introduction of industrialized building methods and prefabricated techniques of construction have resulted in speedier construction and architectural forms, modern in concept and design.*

In the *National Building Code* of India -1972, Part iv, Part viii and Part ix, important guide-lines, useful for architects, engineers and museologists, have been laid down on planning and design of buildings. (National Building Code abbreviated as NBC finds reference in later part of the text. The author took special efforts to study this government gazetteer to incorporate the latest available relevant information, which is furnished in the later part of this text. This information is significant as any building activity in this country is to be guided by the norms, rules and regulations provided in the statutes of this book.)

Discussing about the planning of a museum building Bose[2] under the heading 'Why a Museum ?' stated, 'the philosophy behind constructing a museum building needs a close look. The recent Icom General Conference arranged a key-note address by a well known Latin-American expert on urban and regional studies who said: "What would be the feeling of a peasant who having fled from the misery and exploitation of a farm or a plantation... finds himself face for the first time with the ostentatious marble and stone facade of a museum planted in the middle of a central park on which he reads, or is helped to decipher, an inscription that is

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[1] . K. R. Jani, Planning of Museum Building, *The Small Museum,* Museums Association of India, New Delhi, 1975, p.76.

[2] . op.cit., A. Bose, p.65.

supposed to kindle his sense of nationalism and citizen's pride announcing a collection of objects made by his ancestors, cost the equivalent of 5000 living units, which could house 30,000 people?"

Robert Gretton[1] stated, 'while one is prepared to consider this argument as a matter of high principle, one cannot also overlook the fact that if this proposition is accepted in its totality, there will be no museum building in a developing country for centuries to come and the contribution of contemporary culture cannot be highlighted before the nation.

It is a place to stimulate wonder and imagination, to pause and answer questions. It offers manifold exciting and enriching experiences of mind and spirit. It helps us to understand ourselves and our time and to shape the patterns of our future by explaining our past and the natural world around us. It opens horizons. It challenges the constructive imagination. A poor museum is a dull and unattractive place which handicaps all these vital processes. Even a poor museum draws an audience because there is a real hunger for the things it can offer. But a poor museum reaches only a fraction of its potential audience. The handsomest museum building an architect can design and money build is worth nothing unless it houses collections and staff to match. Otherwise the building is nothing but an edifice and it will rightly be condemned to oblivion as a mausoleum of dead hopes.

A museum is more than a building, it is more than the collection it houses, and it is certainly more than the entertainment it provides in an effort to secure its survival.

It is indeed a metaphor for the place in each of us where we preserve those things most personal, most simply beautiful'.

As the significance of museum architecture was realised, planners and policy makers have understood the need to train a few senior museum personnel in this area. With this objective in mind, some professionals were sent abroad to visit and study success examples of museum buildings and adapt those principles to native requirements. The following is a supportive evidence of the author's statement.

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[1] . Robert Gretton, Museum Architecture, *Museum News* , v.44.n.6, American Association of Museums, Washington, Feb. 1966, p.14.

Satyamurti[1] stated, 'A team of seven museum directors from India toured West Germany and the Netherlands in June and July 1962 to study problems of museums administration, *museum architecture* and techniques in installation, presentation, interpretation, etc. of museums of these countries at the invitation of the Government of Federal Republic of Germany, and, as a member of this team, I had the privilege of visiting over fifty museums all over West Germany and the Netherlands.

The modern museum buildings in West Germany are characterized by a lavish use of plate glass, stainless steel, marble, concrete and other expensive materials of interior decoration such as velvet, silk, hardboard. linoleum, polished wood, etc., which are liberally used for the interior decoration of their galleries. In fact, entire walls of some of these galleries and Museums, such as, for instance, the newly built National Gallery of Art in Berlin, are made of thick, clear, plate glass, which helps to secure a feeling of oneness and continuity with the exterior surroundings. Most Art Galleries in Germany are also equipped with the elaborate systems of central heating, dehumidifying devices, air-filters and air-conditioning systems which serve to maintain the appropriate "museum climate" for the proper preservation and maintenance of their priceless treasures including original paintings and other works of art'.

Museology literature on architecture is dotted with an occasional plea for an ideal plan of museum building. This is an indication of the ignorance on the part of museum personnel about the futility of such a need. Time and again experts in the field have exhorted about the diversity of building requirements. A. E. Parr and Alma S. Wittlin were a few among them. Even in Indian context, museum leaders stated the same. According to Mrs.Baxi,[2] 'museologists often state that there can be no prototype plan of a museum which can be duplicated for any other museum, that a plan has to be conceived for a particular museum, considering its purpose, functions and activities. There can be no denying that architecturally museums form a 'type' of buildings which is different from other types of public buildings, such as a theatre, a community centre or a recreation club. However, in spite of individual requirements of a particular museum there are certain factors common to all these institutions. A museum, whether it is an art centre or a research centre, whether its presentation is

[1] . S.T. Satyamurti, Museums in Germany and the Netherlands- some observations, *Studies in Museology*, Department of Museology, Baroda, v. 5, 1969, pp.7-9.

[2] . Smita J. Baxi, The Crafts Museum at New Delhi, *Museum*, Paris, 1979. p.96.

monodisciplinary or interdisciplinary, has to have some exhibition galleries accessible to the public; it must have reserve collections or stores, either open to the public or not; it must serve the purpose of advancement and diffusion of knowledge, whether this is achieved through special exhibitions, educational services or research publications. In India first public museum was developed in the year 1796 only 40 years after the famous British Museum was founded. It was a result of the lead taken by the Asiatic Society.

Gorakshkar,[1] stating about 'History of Indian Museum' as, 'the first ever museum Bengal which wanted to house the collections it had over the years. One of its members, Dr. Nathaniel Wallich volunteered to hand over duplicates from his collection *provided these were housed in a suitable building* and that was how the first museum was organised at Calcutta. The building in which it is now housed was constructed in the year 1875'.

Since building projects incur a lot of expenditure, spending on them need to be given a careful thought. According to Kirpal,[2] 'There was a suggestion that the government should take more concrete steps to curb the general tendency on the part of autonomous, semi-autonomous or departmental bodies *to spend extravagantly* on buildings. Museum buildings cannot be equated with office buildings in this regard and while accepting general need for austerity and avoidance of waste, our view was that museums were not built every day and they were naturally prestige buildings to be visited by people for long time to come. However, due to paucity of funds we could not encourage major buildings activities for last few years and only small grants could be given for minor extensions and special repairs'.

According to Satya Prakash[3] 'the building of the museum is *not only to serve but also to inspire from both within and without.* The building should be inviting in appearance. In the case of a small museum building, cheerful simplicity is to be desired more than impressive elaborateness. (though Satyaprakash stated this with reference to small museums, the author feels this is applicable equally to medium and large sized museums.

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[1] . S.V. Gorakshkar, Indian Museums and Public Relations, *Yojana*, v.XXIII, n.3, 16 February 1979, p.12.

[2] . P. N. Kirpal, guest editorial, *Cultural Forum*, v. 8, n. 1&2, 1966, Ministry of Education, New Delhi, p 14.

[3] . op.cit., Satya Prakash, pp.13-14.

However, a degree of elaborateness normally accompanies a large museum building with a view to create some grandeur.) The building for the museum has to be both damp and fire resistant.

The *building must be flexible.* It must be so designed that *later rearrangement of its interior be possible in future* from time to time. This is particularly necessary with museum's galleries, or exhibition rooms. The rooms or galleries should be in such a position as to permit subdivision in different ways not only in the light of technical progress in the field of museology, but also in that of the development of the collection and of the evolution of scientific and educational concepts. The buildings should be so designed also that it may be expanded without presenting any problem. The architecture must be so functional that it may be able to meet and express the respective needs of exhibition spaces, storage services, reserves and areas, used for various activities like lecture-rooms, workshops, laboratories for conservation and photography, and offices etc.

The imitation of traditional styles in architecture is to be avoided, but in order to see that the outer structure is not out of joint with the architecture available in the vicinity lest it appears as an eyesore to the onlookers it may be adhered to but in no case should the interior architecture be traditional. It should be, on the other hand, perfectly modern, so that the setting inside the museum is not in contradiction with the requirements of modern museology'.

According to Grace Morley[1] 'many problems found in the building of the National Museum, New Delhi are that museums, even in new buildings, have met in the past and are likely often to experience in the future. Lack of adequate space for storage, workshops and offices are most obvious handicaps. This inadequacy will be to a great extent overcome as the two additional units of galleries, each one equivalent to the present area, and also the final unit for administrative and shop uses are completed. Meanwhile, accommodation for staff and for storage has to be improvised to some degree. The building designed by Deolalikar and built by the Central Public Works Department, attempts to provide for modern museum needs while remaining in harmony with New Delhi's official Mughal buff sandstone with red sandstone trim style, in view of its location at an important intersection of the Rajpath, with the latter's noble

[1] . Grace L. Mc Cann Morley and K. N. Puri, The National Museum, New Delhi, *Museum*, v.14, n. 1, 1961, Paris, p.70.

vista from the India Gate to the Rashtrapati Bhavan (president's House). This location likewise imposed a limitation of height for the Rajpath facade, which had its effect in the low ceilings of the galleries. The second unit will not be so restricted and galleries high enough to accommodate the Central Asian murals will permit them to join the rest of the Aurel Stein collection already installed in the new building.

Leaving aside purely architectural stylistic considerations, which are inevitably the occasion for controversy when an architectural mode of the past is interpreted for contemporary use, the building has many positive qualities for an institution meant to function according to modern museological pattern. For example, the disposition of the galleries on the three floors permits organization of chronological circuits, yet does not trap the visitor for too long and too exhausting a tour. With the addition of the other units the some flexibility and freedom of choice of the visitor will be preserved, though the chronological series will be expanded. This possibility of logically unrolling the succession of periods in the presentation of archaeology and of art is of basic importance in the type of museum where the portrayal of the national heritage, in a way easily understood by visitors, is an obligation. It allows also for keeping-in foreign collections at appropriate places'

contd. . . .

In order to explain museum architecture in general and its salient features **case studies** reported by few noted museologists are mentioned below.

Museums of Chandigarh [1]

Every one believes that museums of every kind must contribute more effectively to contemporary communities than even the most dynamic have been able to any where as yet.

India is a country in the process of rapid social and technological change. Traditional museums, in almost complete purity of form and function, recalling the static international patterns of museum of the late 19th and early 20th century, persist, side by side with those suggesting to find a role of active service to the school and general public, without sacrificing scholarly pursuits. An occasional community has a museum or several museums promising to break new ground and, therefore, despite differences in conditions, akin in their efforts to comparable museums in the west.

Chandigarh is such a place. As a carefully planned city, newly laid out in its entirety, with a large number of educated citizens, if provides among Indian cities a somewhat exceptional setting for museum development. It has two excellent museums, new in architecture, both designed especially for museum use. Their potentialities are clearly immense. With a contemporary outlook built into the city since its inception, these museums may well eventually give leadership in new patterns to the museums of India.

The celebrated master of modern architecture, Le Corbusier, was secured to be architectural adviser for the planning and construction of Chandigarh.

He himself designed the Museum and Art Gallery of Chandigarh. The site of it was proposed near the school of arts, on 6 May 1968, the Museum and Picture Gallery was finally inaugurated.

Chandigarh's Museum and Art Gallery is the third building of this type which Le Corbusier designed and completed in 1968. The Museum of Western Art in Tokyo was opened in 1954. The Municipal Museum, in

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[1] . Grace Morley, Chandigarh Museum, *Museum*, v.XIII, n.4, 1970-71, Unesco, Paris, pp.293-294.

Ahmedabad, a building used for exhibitions of various kinds has been functioning since the early 1960s. All three museum buildings are impressive monumental architecture. The first two proved to have some technical problems from the point of the museum staffs who had to use them. The third, in Chandigarh, was in part of the architect's learning from previous experience. But also it is based on a careful study designed to assure the particular requirements considered appropriate by Le Corbusier for a museum for the planned capital, as well as those practical from the view point of those Indian leaders working with him to bring the museum to realization. The result may be considered satisfactory as far as provision of work space and other areas auxiliary to the exhibition galleries are concerned. However, if Le Corbusier had lived until the time for installation of the exhibitions, and had been able to give guidance to the arrangement of the interior, undoubtedly the aspects of the galleries would have been somewhat different from their present appearance.

Describing further about the architecture of the museum buildings at Chandigarh, Dr. Morley wrote, 'the Museum and Art Gallery of Chandigarh presents a number of distinctive features. The importance of its building as a monument of modern architecture sets it apart from other museums of the country, of course. However, the firm intention from the beginning of its planning to provide the practical requirements of the contemporary active museum pattern is likewise unique in India so far. Thus, adequate work space, ample and well-arranged storage areas, good staff offices, provision for the accommodation of research students and scholars, comforts for the visiting public as an agreeable lounge and a cafeteria, have been included in the main building. Educational and appropriate cultural programmes and activities, and additional less-formal exhibition space are to be added when the supplementary separate buildings across the plaza from this building are finished.

The installation of galleries by a professional exhibition designer who was given almost complete freedom to provide an effective setting for the art exhibited in so far unique in India. Whether it is a satisfactory precedent is not yet clear. At least, it has been success in this particular instance. The building of overwhelming power and majesty, by an architect of international prestige, did not in any way resemble traditional exhibition galleries, and presented many problems of scale, and the type of requirements for exhibition of the of the art objects safely and effectively. It should be emphasized that the Museum and Art Gallery as it now stands represents a fine modern museum "instrument."

The second museum in Chandigarh of importance is the Art Museum of Punjab University, designed by the University's Architect B. Mathur. He had been a close collaborator of Le Corbusier. Like the museum, the university art gallery has been planned with care for its use as a university museum. It is attractive in external appearance. Its galleries provide a variety of sizes and shapes, with excellent wall space and good lighting. There is an open paved court which can be used for sculpture and an attractive arrangement of canals and pools skirting it and the walk-ways connecting the galleries. Lighting is principally daylight but there is provision for addition of artificial illumination. Its size and elegance give it more importance than that of the several other excellent teaching museums in the university.

National Museum [1]
(A Golden Jubilee Review)

According to Agrawal, 'it is hard to believe that New Delhi, the capital of India for so long, did not have a museum worth the name before 1949. It was then that the National Museum was created with an exhibition which was first arranged in some halls of the Rashtrapati Bhawan.

In 1960, the exhibitions moved to a building specially constructed for the museum. Coming to the new building, it provided the museum with the opportunities to have other programmes, besides exhibitions.

The building ; space distribution

The National Museum is housed in a very beautiful and imposing building. The exterior of the building has been constructed using of traditional materials such as buff and red sandstone, which was very popular in some Mughal and early Indian buildings. To a certain extent, the building served the purpose of the museum, particularly providing space for the exhibitions. The halls were large and could be partitioned to make smaller galleries. As regards space distribution, roughly half is for exhibition, one-tenth for the laboratory, one-fifth for administration and one-fifth as workrooms for carpentry, etc.

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[1] . O.P. Agrawal, National Museum, New Delhi: achievements and problems, *Museum*, v. XL1, n.3, 1989, Unesco, Paris, pp.141-144.

There were, however, some glaring deficiencies which certainly diminished the total impact of the museum. I remember that in the early days, the director and the staff were struggling hard to find enough space for the various activities. The situation was aggravated because of the dearth of funds at that time. The entire building as planned by the architect was not built at one time. There were to be at least four phases. The first phase consisted of only about 55 percent of the total area envisaged by the architect. The result was that many essential services which should have been present from the very beginning were not provided for in the first phase and make-shift arrangements had to be worked out. There was, for instance, very little space for the administrative staff. Rooms had to be created in the corridors by erecting wooden partitions for the director and the keepers of the museum.

There was also no space for the conservation laboratory in the first phase. The need for one was none the less recognized early on, and a hall meant for some other purposes was handed over to the laboratory. I recollect that in the initial period of the allotment of space, the laboratory was to be set up in the basement, which in the event would have been a disaster. When the activities of the laboratory grew, the museum canteen was closed down and the space thus vacated was also given over to the conservation laboratory.

The National Museum has good storage areas for its reserve collections. Storage for paintings, textiles, Central Asian objects, decorative art and ethnological objects was designed with care. In fact these storage areas were luckily installed at the very beginning of the shift of the museum to its new building in 1960. These facilities have ensured that the art objects are taken care of.

Where the exhibition galleries served the purpose for which they were created has always been a vexed question. Commenting on this aspect, Mrs. Smita J. Baxi, the first Keeper for Display in the National Museum, a trained architect and designer later to become the Director of the National Museum of Crafts and now retired, remembers the challenge thrown up by the design of the exhibition halls. She mentioned that there were windows at a rather low level in the halls and thereby a lot of precious wall space was lost. Furthermore, the placement of the windows was not systematic, in the sense that there could have been a window in one bay and then no windows in the next two bays and then another window, and so on. In such a situation, effective exhibition design was difficult.

Mrs Baxi further commented that

> when the windows were blocked we had to depend on artificial light, and thus in some galleries, like the Bronze Gallery only artificial light was available. In case of light failure, which is not infrequent, there was total darkness in this Gallery.

Indeed the problem of lighting failures has still not been solved fully. Emergency lights start functioning if there is a power failure, but that is only general lighting, not suitable for most exhibits.

On the recommendation of some display experts, spotlights were aimed towards the walls and the and the display possibilities were thus very much restricted. Hanging lights were originally installed in some galleries, but were very ugly. Later it was decided to build a system of troughs so that indirect lighting could be obtained.

Air-conditioning; conservation; publications

The building was not originally designed for air-conditioning. It was not foreseen at the outset because the architect was not aware of the need for it, and had to interaction with the conservators when the building was being planned. Even when in 1972 the plan for air-conditioning was approved, the engineers thought that air-conditioning was required only for the daytime. However, consultations with the conservators changed that attitude. When a decision was finally taken to air-condition some of the galleries, ducts for air-conditioning had to be put up inside the halls fixed to the ceiling. For this purpose some columns had to be constructed to support the ducts. The result was that the exhibition halls was divided into two parts, and thus instead of having a large hall two narrow galleries came into existence. Flexibility required for display was thus sacrificed. Furthermore, plant-rooms for air-conditioning and electrical installations had to be constructed inside the halls and thus there was a further loss of valuable exhibition space.

On the question of circulation there was also some difficulty because there was only one entrance/ exit to all the galleries on any given floor, therefore, visitors had to pass back through all the galleries before they could get out. The design of the building is such that it would be difficult to make any large scale changes in this pattern.

A defect in the location of the National Museum building is its proximity to a road; it is so very close, in fact, that there is not even a parking place

for vehicles. The cars, buses and scooters of staff and visitors have to be parked on the pavement outside alongside the road. This was only perceived as a problem after the building was already in use.

As for utility spaces, there was no place foreseen to prepare exhibitions. The museum faces great difficulty when the exhibitions are to be sent out. This is very frequent because, being the premier institution of India, the National Museum has to shoulder this responsibility regularly. Packing of exhibits has thus to be done in the rotunda, in full view of visitors; sometimes a temporary partition is put up to block the view'.

National Science Centre [1]

According to Bhowmik, 'National Science Centre, Delhi (NSCD) is the youngest member in the family of Science Museums under the auspices of the National Council of Science Museums. The Council, an autonomous body, administers all the Science Museums and Centres under the Ministry of Human Resource Development and is also responsible for setting up new Science Centres of different magnitude & in different tiers in the identified areas of the country. As per recommendations of the task-force on Science Museums set-up by the Planning Commission (1972), the NSCD is being set up as one of the largest such centres in the country to cater to the requirements of the states of Northern India.

The Science Museum development under the Council of Scientific and Industrial Research (the body that used to govern the affairs of Science Museums) had been a sporadic one without any coordinated plan or development. According to the task force recommendations, the National Council of Science Museums was born in 1978 which now plans and coordinates Science Museums in India.

The Earlier Scene

The initial efforts in respect of concept development and exhibits presentation for science museum were governed by the facilities available with the building characters both at Calcutta and Bangalore. These were either residential buildings or buildings meant for some office use and

[1]. P.K. Bhowmik, on the design aspects fo the "Dream Castle"- the National Science Centre, Delhi, (presented at the Indo-US Sub Commissions work on "Museum Architecture" held at New Delhi, February 6-9, 1990.), pp.1-5.

definitely not for housing a Museum within. The scenario drastically changed in the later period and a breakthrough was achieved with the setting up of the Nehru Science Centre, Bombay where user's requirements were totally taken care of in devising facilities of a Science Centre. Befitting a Science Museum, the design became more functional than cultural-an unpredictable and changing mix of architectural forms for a Museum building. An appropriate environment was created by the architect which ensured receptivity and sustained public enthusiasm through its visual and psychological qualities. In fact, the building formed a landmark not merely because of its aesthetic significance but as a structure which is consciously designed to express a scientific concept and achieved operational convenience. The users requirement in respect of flexibility and change, easy circulation, diversity and spatial variety were adequately met.

In the architecture of the Nehru Science Centre, Bombay a big leap was made where the museum building came up exactly according to the users need in respect of exhibits, activities and services.

In Bombay ample ground area (13 acres) was available and the architect had wide flexibilities while designing the details of the building character. Natural gradient in the landscape was appropriately dealt with and the desired format had emerged out to provide an exact environment through a Science Park attached to the Museum building. The design of Nehru Science Centre was basically modular, the module was evolved through a stage by stage dissection. The form developed into a multi-directional module with central service cores and structural shafts. The entire requirement were resolved in four major modular units to come up in two phases. The administration measuring about 3000 sq. mtr. was totally separated away from the main building. The circulation has a forced ventilation system with heavy duty fans location on the roof for air exchange to help overcome Bombay's humidity.

The NSCD Building

The expertise gathered through the design and development of Nehru Science Centre were highly rewarding in the subsequent stage while the same architect was assigned to design the NSCD.

The shape of the site at Delhi was very difficult. The nearness of the Old Fort and the commanding position of the Museum site as well as the existence of a massive exhibition hall belonging to the Trade Fair

Authority of India (TFAI) on the rear site posed a challenge to the architect. Here too the design was based upon development of modules which constituted large clusters.

A descending cascade system in the building architecture in fact, is inviting in character and provides a broad setting without interfering with the neighbouring tall structures.

The building is expected to create excitement and receptivity of mind through a variety of surprises.

Proposed circulation

The visitor will have his entry to the Centre from the Bhairon Road and through a flight of stairs floor level to the reception area. From here an escalator shall take the visitor directly to the third floor level where the journey into the Dream Castle begins. From this level the visitor would climb up one more floor where a gallery is located over the entire floor. He would make a downward move. The cafeteria is located on one half of the ground floor.

The basement is accessible by means of goods as well as two passenger lifts at the two ends. Further more it is connected by means of stairs at three locations.

Elevators and escalators facilities

Fright lift-tonnage- 3
rise-basement to 4^{th} floor

Passenger lift: No. of passengers-16
rise- ground floor to 4^{th} floor
No. of passengers-8
rise- basement to 3^{rd} floor
No. of passengers- 8
rise- basement to 5^{th} floor

Escalator : 9000 person per hour
rise- 1^{st} floor to 3^{rd} floor (6 meters vertical)
speed- 0.50 linear meter per second.

Crafts Museum [1]

The large permanent collection of 20,000 artifacts of folk and tribal arts, crafts and textiles is housed in a concrete but almost 'invisible' buildings. Charles Correa, the architect, had a challenge before him - on the one hand to provide a 'pucca' building for safe preservation and display of the rare art objects, but on the other not to let the building be so imposing that it would belittle the humbler objects collected from village homes. The scale and appearance of the buildings had to be such that it would not attempt to upstage its ancient neighbour the Purana Qila on the one side and the Village Complex of the Museum on the other. Consequently, the low-lying building is masked on all sides with tiled roofs supported by *ballis.* The old carved wooden doors and windows from Gujarat and Rajasthan, central courtyards having *champa* trees, *tulsi* shrines and a monumental temple-car co-exist in this "modern" building not as a revivalistic ethnic chic exercise, but as a contemporary juxtaposition of past traditions in a modern building meant for a modern Indian Crafts Museum. A walk across the Crafts Museum building in the twilight hour would be through open and semi-open passages covered with sloping, tiled roofs and lined with old carved wooden *jharokhas*, doors, windows, copper utensils and storage jars and perforated iron screens through courtyards having domed pigeon houses adorned with arches and lattice work panels, terracotta shrines for *tulsi* plants, massive temple chariots and vermilion covered aniconic wayside shrines, providing a very now and then a peep through a window into vast museum galleries filled with storytellers' paintings, clusters of Manipur earthen pots, timeless votive objects, giant sized Bhuta figures. This walk through the Museum building is akin to a journey made simultaneously through the *pols* of Ahmedabad, streets of Jaisalmer, the temple courtyards of Madurai and the villages of Banni, as it were a stratigraphy of an ancient archeological site displaying all objects of an entire civilization frozen at a single level of time and space. The progression of built form is so spontaneous that it is comparable to any traditional Indian settlement which grows without any formal planning; the scale and proportions beings so magical that each view, each angle and each 'frame' appears to be naturally 'composed'. These are the scales and proportions of Indian villages where the objects of everyday life (known as "handicrafts" today) are created and used. Charles Correa's Crafts Museum has captured this magic with its characteristic spontaneity. It is a

[1] . *Crafts Museum : Metaphor for an Indian Street,* a folder of the Crafts Museum, National Handicrafts and Handlooms Museum, New Delhi.

flexible building in the same sense as an Indian village street would be flexible - affable, accommodative, informal and active. A street is never complete, concluded or regulated but is full of unforeseen, undefined and unexpected activities. An Indian street is a shifting reality. The Crafts Museum is not a product of a clever, translation of an architects initial concept into a concrete reality by a bunch of meticulous civil engineers - just one more building. It has a timeless quality about it - like India itself - where tradition and modernity co-exist, sometimes as collage and sometimes as transition from the former into the latter.

Lalbhai Dalpatbhai Museum [1]

Original form:
The original 'E'shaped building had to be modified to what has been built now to make it look as a complete whole .Therefore to start with the main hall was built to which the two wings will be added. One of the wings will be added this year to house the N.C. Mehta collection of Ahmedabad.

However, in the month of June 1983 S.K. Andhare, the new Director, joined when the building was in progress and the museum structure had reached 1st floor slab level after studying the nature of the entire collection to be displayed in the new building, the director suggested few changes and alterations such as removal of sky lights on plaza area, closing of large windows overlooking the indology building keeping only one window open, a ramp for disabled was suggested in the entrance foyer; it was at this time only that an idea of a lift or a ramp or a dump waiter was suggested for shifting of heavy sculptures to the basement which could not be implemented. Subsequently, cement and wooden pedestals were thoughtfully placed on the ground floor keeping in mind the routing, chronological development of Indian sculpture, light points, ventilation and security of objects. At the same time all windows were provided with strong iron grills and sound locking arrangements were made.

Alterations:
In view of functional arrangement, the long ventilator provided by the architect on the plaza side had to be covered up with an artificial pelmet to cut the glare coming directly on the eyes of the viewers. A group of three

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[1] . Sridhar K. Andhare, The New Lalbhai Dalpatbhai Museum, Ahmedabad , *Journal of Indian Museums*, Volume XLIII, 1987, Museums Association of India, New Delhi, pp. 121-122.

marble figures-A *Triterthi* was placed in the centre of the Gallery to prohibit visitors from going upto the 1st floor immediately. Thus the left hand circuit was adopted. Similarly, in the back wall of the sculpture gallery, two built-in show cases were designed. The administrative office was established in the big room whereas the small room was converted into a small committee room. The Director's office was set up on the 1st floor above the entrance.

A few alien examples:

Museu d' Art Contemporani of Barcelona [1]

The design of the Museu d' Art Contemporani of Barcelona (MACBA) illustrates convincingly the changes that have come about in our acceptance of the museum concept and the place that the institution we call a museum occupies in Western culture. These changes - which really came into their own around the 1980's stemmed from a desire to incorporate the classical museum structure into a design allowing for easier access and operationally speaking greater flexibility; one that was more 'consumer friendly' to meet the needs of mass tourism, but at the same time more in tune with the new communication technologies. The worldwide success of the Gorges Pompidou Centre in Paris secured acceptance as far back as the 1970's for the idea of large scale 'culture machine' encompassing a museum, a library, large-format, temporary exhibitions and cinemas. The building that houses this 'big machine' is very interesting In its own right, a tourist attraction designed to receive a large number of visitors on a more modest scale, this model was emulated by many municipalities in Europe in the following decade, while in North America the practice of 'cultural machines' was already well established at that time. The most striking example of this policy was to be found in Frankfurt in Germany wherein the 1980's an impressive number of museums were built, designed by leading architects like Richard Meier, Oswald Mathias Ungers, Gunther Benisch, Gustav Peichl and Hans Hollein.

The Museu d' Art Contemporani of Barcelona is clearly carrying on this tradition. However, perhaps because of very special circumstances prevailing at the time this museum was the focus of bitter controversy even before its construction. The point is that it is difficult to think of setting up

[1]. Mebail Moldoveanu, Filtered light : the contemporary art museum of Barcelona, Museum, V.49, n. 4, 1995, Unesco, Paris, pp. 10-14.

of a new museum without having a single collection to show and yet that was precisely MACBA's position in 1990 when the project was launched. At the inauguration in 1995, the beginnings of a permanent collection could be perceived and by the end of 1996 the number of works had grown but it is still only an embryonic collection, a fact that has continued to raise doubts as to the future of the enterprise.

This is well illustrated by the view expressed by Jean Clair, Director of the Picaso Museum in Paris. Interviewed on the development of Arts Centre in the recent years he unhesitatingly came back with the sharp reply : `people have tried to reproduce the Paris model in other large cities, set up art centres and "museums without collections" in the expectation of the audience that never came . This has caused quite a few problems, several resignations and questions about whether people are really interested in so called, "avant-grade art" and what it has all cost. Spain should give this matter a little more thought; perhaps, it could benefit from the French experience.' Here Jean Clair was referring implicitly to MACBA.

Lastly, the picture of the general context in which MACBA came into being would not be complete without mentioning major building campaign that the city had undertaken sometime before, for the 1992 Barcelona Olympic Games. `Barcelona Olympica' covered a whole range of large scale works - infrastructure, facilities, housing etc. some of which are designed by architects of world renown. The success of these projects strengthened the confidence of local authorities in the capacity of architecture to resolve a fair number of city's problems.

Glorifying the Museum :

The site induced its architect Richard Meier to orient his building with broad expanse of plate-glass frontage. Between the halls glass facade and the exhibition area there are several `filters' to soften the natural light which is supplemented by electric lighting.

A `beacon' of culture:

Richard Meier's MACBA is beyond doubt the sophisticated structure that the local authorities had in mind detractors have mainly criticized the idea of a glass museum (but there is no collection anyway, this is not too much of a problem!) and the stark contrast between the dazzling whiteness of the building and the characteristically ochre tones of the surrounding

neighbourhood. The excess of light is not really an issue, since it is adequately filtered. And people have more or less come to terms with the contrast created by this great white mass, accepting its symbolic significance as a 'beacon' of culture.

As to what MACBA has to offer the public, the main attraction is Meier's work, the building itself. It is difficult to predict how long this can be expected to last, but for the time being, the public is interested in the architecture. Focused though it is on the celebration of its own existence MACBA is also involved in the debate on the future of the museums in general, through exhibitions like - *Diffused Spaces: Future Trends for Museums* or again *looking* (at museums).

Having known about museum architecture in general, it would be logical now to know in detail about the different aspects of it. This would lead the subject matter under discussion to its sub-units explained under two major headings - 'museum exterior and museum interior, which will form the two successive following chapters.