MUSEUM EXTERIOR

Over ages, the outward appearance had been a matter of serious concern to museum personnel as it had a very important bearing on creating an image. As a corollary to this fact, varied features of form and appearance have emerged to give them a distinct identity and recognition. These attempts not only succeeded in fulfilling the creative genius of acclaimed architects, but also stirred and garnered the attention of critics. Guggenheim Museum in New York and Pompidou Centre in Paris are two classic examples of this trend-setting phenomenon. Though no such unconventional or glaringly conspicuous examples exist in Indian context, there are a few noteworthy museum buildings with appealing external features. Describing about the outward look of the Museum and Art Gallery, Chandigarh Dr. Morley [1] stated 'the external appearance of the building requires no explanation.'

Museum exterior comprises of components such as location, site, surroundings, style, harmony, landscaping etc. Right selection of all these aspects of a museum's outward structure contribute to the formation of an ideal exterior of museum building. The details of these are discussed as under :

Location:

The area in which the museum building is planned to be constructed is considered as location. The earlier and often repeated opinion held by museum experts and professionals is that a museum building has to be located in the *educational quarter* of a city. Of course, if possible, it is an ideal situation even today. But museum as we know it by now, is predominantly an urban phenomenon. All the leading museums of the country are located in major cities. Looking at the size and topography of our metropolitan cities, it would be difficult to point out one particular area as the educational quarter of a city. This proposal is more applicable only to the museums envisaged to be constructed in the future planned cities.
(*Notes:* Because as an urban area grows, there is every possibility for the development of a few educational areas than a concentration of it at a single location; as it could be noticed in any large metropolitan city like

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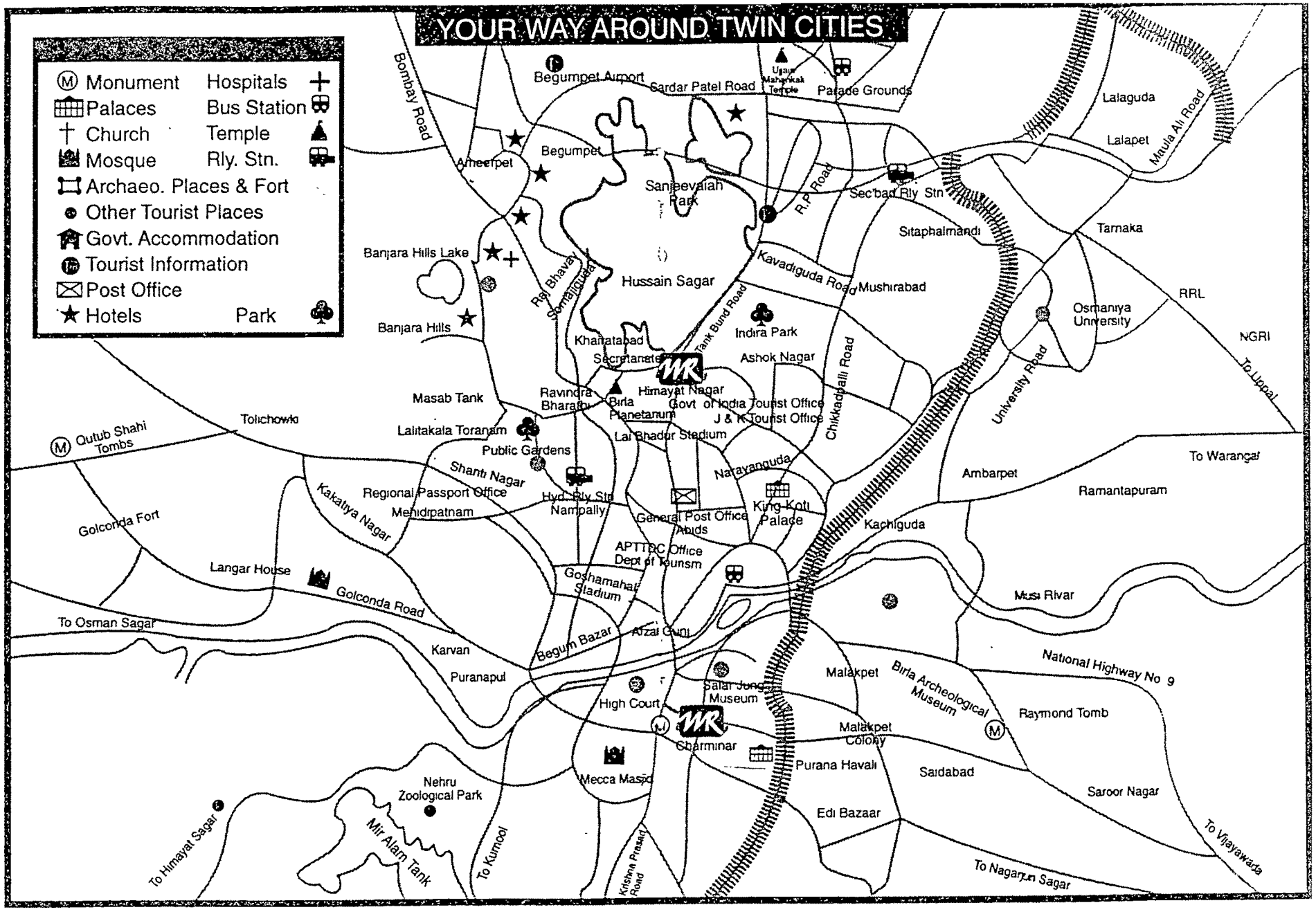
[1]. Grace Morley, Chandigarh Museum, *Museum,* v.XIII, n.4, 1970-71, Unesco, Paris, p.292.

New Delhi or Hyderabad etc.). For example, this was possible in case of the Museum and Art Gallery, Chandigarh, which is a planned city; as it was envisaged in the town planning itself. However, the museums should preferably be located near the *allied institutions* as it is the case with the following museums.

At New Delhi, the capital of the country and an abode for many national museums namely - National Museum, National Museum of Natural History, National Gallery of Modern Art, National Science Centre, National Children's Museum (Bal Bhavan), National Handlooms and Handicrafts Museum (Crafts Museum) and several other museums like the National Rail Museum, Air force Museum, War Memorial Museum, Sankar's Dolls Museum and Personalia museums of the Father of the Nation, Mahatma Gandhi and the Prime ministers namely Pandit Jawaharlal Nehru and Smt. Indira Gandhi; the locations of these museums are far away from one another and still justify their existence at those respective places in majority of the cases.

The museums that give an impression of being out of place are the National Museum of Natural History, Sankar's Dolls Museum and the National Children's Museum. Of course, in case of the National Museum of Natural History it is a temporary accommodation. Further more, according to Gupte,[1] who retired as Scientist SE, from this institution and who was associated with it right from its inception; there was an attempt to locate this institution in proximity to the local zoo in the initial stages of its establishment which could not succeed however due to want of space.(What appears to be a missed opportunity in this context seems to have been achieved with its first regional museum established at Mysore by locating it in the vicinity of the popular zoo of this famous tourist place of the southern peninsula.) Contrary to this, National Museum is situated next to the office of the Archeological Survey of India and closer to the National Archives, the National Gallery of Modern Art and the India Gate (Martyr's Memorial) are nearby. Similarly, National Handlooms and Handicrafts Museum and the National Science Centre are in proximity in the same compound. Calcutta is known as 'City of Museums' as it is prominent for several important museums. The first museum of the country, the Indian Museum was established in this city. Further, Victoria Memorial Hall, the first Science and Technology museum of the country Birla Industrial and Technology Museum, the first university museum of

[1] . P. G. Gupte stated this as a response to a query on this matter on 23rd August, 93 at the Department of Museology, Faculty of Fine Arts of the M.S. University of Baroda.


YOUR WAY AROUND TWIN CITIES
Monument
Palaces
Church
Mosque
Archaeo. Places & Fort
Other Tourist Places
Govt. Accommodation
Tourist Information
Post Office
Hotels
Hospitals
Bus Station
Temple
Rly. Stn.
Park
Bombay Road
Begumpet Airport
Sardar Patel Road
Ujjain Mahankali Temple
Parade Grounds
Lalaguda
Lalapet
Mauja Ali Road
Ameerpet
Begumpet
Sanjeevaiah Park
R.P. Road
Sec'bad Rly Stn
Sitaphalmandi
Tarnaka
Banjara Hills Lake
Raj Bhavan
Somajiguda
Hussain Sagar
Kavadiguda Road
Mushirabad
RRL
Osmaniya University
NGRI
To Uppal
Banjara Hills
Khairatabad
Secretariate
Tank Bund Road
Indira Park
Ashok Nagar
Chikkadpalli Road
University Road
Masab Tank
Ravindra Bharathi
Himayat Nagar
Birla Planetarium
Govt of India Tourist Office
J & K Tourist Office
Lal Bhadur Stadium
Tolichowki
Outub Shahi Tombs
Lalitakala Toranam
Public Gardens
Shanti Nagar
Regional Passport Office
Mehdipatnam
Hyd. Rly Stn
Nampally
Narayanguda
King Kothi Palace
General Post Office
Abids
Ambarpet
Ramantapuram
To Warangal
Kakatiya Nagar
Golconda Fort
Kachiguda
APTTDC Office
Dept of Tounsm
Langar House
Golconda Road
Goshamahal Stadium
Musi River
To Osman Sagar
Karvan
Puranapul
Begum Bazar
Afzal Gunj
National Highway No 9
Malakpet
Birla Archeological Museum
Salar Jung Museum
High Court
Charminar
Raymond Tomb
Malakpet Colony
Purana Havali
Saidabad
Mecca Masjid
Nehru Zoological Park
Saroor Nagar
Edi Bazaar
To Himayat Sagar
Mir Alam Tank
To Kurnool
Krishna Prasad Road
To Vijayawada
To Nagarjun Sagar

the country the Asutosh Museum of Calcutta University and the museum of the Asiatic Society etc. are located in this city. Even in this city, the locations of these museums are far apart. Amongst these museums the Indian Museum building shares its place with the offices of the Surveys as the Anthropological Survey of India. The Asutosh Museum is located in the university campus true to its character as a university museum.

At Mumbai, the leading museum of the city the Prince of Wales Museum is located in an area which is equally popular for educational, cultural, commercial and tourist activities. It is in the vicinity of the Jahangir Art Gallery, J.J. School of Art, Bombay University and the famous monument the Gate Way of India, and now, the recently established National Gallery of Modern Art, also. Gorakshkar[1] in his article on this museum in the Marg stated, 'this solid structure of basalt stone, with a big dome, surrounded by a beautifully laid garden in front, is built on a spot of land known as the "Crescent Site " because of its shape. The Museum is situated at an ideal place with the University of Bombay on its west, the Council Hall and Gateway of India to its south.'

Another popular museum, the Salar Jung Museum of Hyderabad is located near the famous monument, the Charminar. (see map)

In the foregoing, a brief note of the location of some leading museums in the four directions of the country is given. So, it may be concluded from the above, that museums should always be located at a relevant place that justifies their existence and enhances their utility.

The museums with natural history sections are also located closer to allied institutions. The building of the first Natural History Museum of India located at Darjeeling also houses the office of the Forest Department in it. At Baroda, the Museum and Picture Gallery is in the near vicinity of the local zoo. Similarly, at Trivendrum the Natural History Museum and zoo are at the same location. Similar condition exists at the State Museum, Lucknow. The Prince of Wales Museum at Mumbai is located next to the Bombay Natural History Society. Likewise, though not a prominent museum known for its natural history collection, the Junagadh Museum is located in the proximity of a popular zoo of the country. Museum should preferably be located near to the allied institutions as they could play a

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[1]. S.V. Gorakshkar, Prince of Wales Museum, *Marg*, v.XIX, n.1, Marg Publications, Bombay,1965, p.38.

complementary role to each other. This is also true with museums displaying art and other subjects as mentioned earlier. Moreover, visitors will have an alternative and choice if they are not contended or bored with the visit to the museum. Museum and Picture Gallery is thus one of the best museum locations of the country for the wide range of choices it offers in its vicinity. It almost has everything in its proximity ranging from a cafeteria to a health museum, including a planetarium, a zoo and a sprawling and well maintained garden with wide range of entertainment for various groups of public and especially for children. But in this type of arrangement the museum should be prepared to stake its claim and try to figure in the list of preferential choices of visit by the public when it is located in a place like this. By its nature, a museum is comparatively a serious place involving concentration and contemplation of thought unless viewed casually. So, unless it is effective in display and active in its programmes, it fades in the competition with other public places present in the same location. A contrasting example is observed in the same city with another museum located at other place in the city. It is the case of the Fateh Singh Museum, a trust museum of the erstwhile princely family. Of course, the museum is smaller in scale, scope and content. But at the same time its location is a serious limiting factor. It is located away from the main commercial, educational and to an extent even the residential areas of the city. It is situated in an isolated building in the palace compound. An average visitor has to spend twice as much time in reaching it than it takes in viewing it. There is no other place of public interest in the surroundings. So, needless to say one may not come across more than a group of a family or two at any given time visiting this museum. Except on special events at the palace during festive occasions, the attendance of visitors is remarkably low. This could thus be considered as an example of museum situated at a location not easily accessible by the visitors. Because of this, this museum fails to achieve its intended purpose. It is a museum endowed with many virtues of having a specially built building by a noted architect-Dave, and with good interior decoration which will be explained in detail in later part of this text. Both the local media (mass opinion), and the museum authorities lament the deplorable state of affairs of limited or dismal public response, acknowledging the limitation imposed by its isolated location and other factors. Mrs. Shinde the curator of this museum has vented her disappointment over the bleak attendance figures in recent past with the press.

Specialists in the museum field suggest a museum should be located at an *easily accessible point* by the public, as it has a direct influence on the

A museum facing the street and built at the same level, Germany.
(courtesy - *New Museum Buildings in Federal Republic of Germany*, Academy Editions)

visitors' attendance figures. This means that it should be closer to various modes of transportation. The author seeks to differ with this suggestion also for the following reasons. Generally, tourists form the majority of the visitors to an average museum. So, the easy accessible point in that case becomes a site located closer to the transport terminals of various kinds. This is not preferable for the various kinds of pollution they emit - such as dust, noise, pollutant air etc. A building located either on the way or closer to these terminals will be exposed to constant vibrations due to vehicular traffic, unless a preventive measure is envisaged and due provision is made in the construction of a building by reinforcement and by making it vibration proof. A contrary view is expressed by Coleman,[1] that museums adjacent to main roads with frontal expositions have an inviting appealing on the visitors and motivate their visit. In his words 'Buildings set only a little way back from the street, with a narrow long or modest plantings in front are fairly numerous. Sometimes, the character of adjourning properties prompts this arrangements which seems to partake of both the accustomed atmosphere and the new spirit of museums.' However, this is a suggestion made in the middle of the century and with regard to European context. This situation will not suit a tropical country like India and with its dense population and high emissions of vehicular traffic. Further, in big cities the terminals of different modes of transport may be away from each other and more than one in number for each mode of transportation. Thus, this suggestion is not practically feasible. Moreover, the areas closer to transport terminals usually used to be of great commercial demand. A museum to be located in that area has to vie for place with other non-allied public places such as hotels, restaurants, travel and transport offices etc. It is certainly not ideal for an educational institution like museum to be located in a noisy and congested area like that. Furthermore, majority of tourists travel enmasse in Indian context and hire their transport conveyance which carry them right up to the doorstep of the institution/place of interest which forms part of their itinerary. According to a report that appeared in *The Hindu*,[2] 'The Salar Jung Museum, hailed as the greatest one-man art collection in the world, is a must for tourists visiting Hyderabad. But nearer home, the place is too familiar to warrant a serious look. Most locals, barring those with a flair for art, ritualistically file past the exhibits spread over several rooms.' This condition is applicable more or less to majority of the museums.

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[1]. Laurence Vail Coleman, *Museum Buildings*, v.1, American Association of Museums, 1950, p. 48.

[2]. *The Hindu*, Hyderabad, 1-7-1996.

Another suggestion regarding location is that it should be at a place easily *approachable by public transportation.* This is quite possible by choosing appropriate location of the building and by making necessary arrangements with local public transport authorities. An account of the premier museum of the country in this regard is as follows:

National Museum, New Delhi is located closer to President's House. It is well connected by the local road transport which is the chief mode of public conveyance of that city. Similarly, National Museum of Natural History is located near the New Delhi Railway Station and is easily accessible by public transport. National Gallery of Modern Art which is also nearby is well connected by public transport. Even National Handlooms and Handicrafts Museum and the National Science Centre are also located at an easily accessible area by public transport system to Pragati Maidan (National Trade Fair Centre). Pragati Maidan is a fair ground of the capital which is active with commercial and industrial fairs of different types for a period of six to eight months of an year. Right from autumn to spring of an year the ground hosts several exhibitions. For the nature and scope of a craft museum the site is an ideal location. Similarly, the setting of the National Science Center in the same campus is also ideal. But, this would have been a misfit for National Museum or a National Gallery of Modern Art which portrays a subject which is comparatively serious in content and this needs a quiet place for a casual visit or a scholarly contemplation.

The Prince of Wales Museum at Mumbai is close to two local train terminals, the Church Gate and the Chatrapati Shivaji terminal and further connected by the local road transportation, the Bombay Electrical and Transport System. This is almost equally true with the Nehru Science Centre which is situated at an easily scaleable location.

At Hyderabad the Salar Jung Museum is located right across the State Road Transportation Service Depot. At Calcutta, the Indian Museum is located on a thoroughfare. Birla Industrial and Technological Museum seem to be located comparatively at a secluded place. But the Asutosh Museum is located at the famous centenary building of the Calcutta University and is at a walkable distance from the nearest bus stop. The Victoria Memorial Museum is situated only adjacent to the local tram and metro terminals. The Museum and Picture Gallery at Baroda is also close to the rail, state and a local road transportation stations and is situated in the heart of the city.

But, mere accessibility of museums by various modes of state owned public transportation systems is of little relevance in Indian context, as majority of tourists here come by hired public transportation, which in most of the cases used to be road transportation that brings them almost right up to the doorstep of the museum.

According to Coleman[1] 'Public museums may be beneficiaries or victims of their whereabouts. The museum's location in the city plan, and the ground itself, should be chosen in the light of what the institution is and what it requires; but all too often an unsuitable ***location or site*** dictates its own terms, making the museum less than what it should be.

Accessibility to everyone, by easy means or conveyance if not merly on foot, would be ideal choice.

It appears that, but for reasons of attendance, the best museum location is not at the busiest street intersection in the centre of town but at a point of less flurry on one of the main arteries that great number of people follow habitually in going from their homes and that children can reach from their schools.

The location should be favourable to tourist patronage, since people from out of town make up a large part of every museum's attendance. This requirement has more bearing on nearness to highway and on other kinds of accessibility. Placing a museum near a university may or may not be good for the museum. Grouping several museums -as around a plaza at or along the Mall at Washington-is helpful to all, provided the place is right. However, propinquity to the point of having several museums under one roof is disadvantageous, and so is the scheme of building a museum as a wing of library or public archives, or as part of a community building, or convention hall, or courthouse'. During the field work, the author came across similar attempt being made by the authorities of Watson Museum, Rajkot; as they felt disturbed and less secure because the presence of town hall in its vicinity.

'The conditions of a park site give a museum fire protection and more or less freedom from noise, dirt, smoke, gas fumes, vibration, and other

[1] . op.cit., Laurence Vail Coleman, pp.45-46.

nuisances of cities. And parks offer room for expansion, at least theoretically.'

According to Hebditch[1], 'the public, will determine the suitability of the site for museum purposes. If a new building and site is on offer (at the present time this is often as an element of 'planning gain' in a much larger commercial development) then an equally much keen examination is required'.

According to Bhalla,[2] 'Location is of course of *crucial importance* to any museum..'

According to Molajoli,[3] 'whenever it is proposed to build a museum - whether large or small - there is usually one preliminary matter to be settled; the choice of site - where several possibilities are available, the drawbacks and advantages of each must be carefully weighed.

Should the site be central, or on the outskirts of the town? This appears to be the most usual dilemma. Until twenty or thirty years ago there was a preference for the centre of a town, with its better transport facilities. But as the use and speed of public and private transport gradually increased and it has become easier to get from one point to another, it has been realized that the convenience of a central situation for a museum is overweighed by the many and substantial advantages of a less central position. These include a greater choice and easier acquisition of land (at lower cost), less fatigue from the noise of traffic - a growing and already very real problem - and an atmosphere less laden with dust and with gases which when poisonous are, to say the least unpleasant.

A museum should always be readily accessible from all parts of the town by public transport and, if possible, be within walking distance as well, and must be within easy reach of schools, colleges, university and libraries. As a matter of fact all these institutions have similar problems

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[1]. Max Hebditch, The management of premises, *Manual of Curatorship*, Butterworths, London, p.501.

[2]. J.R. Bhalla, Inaugural Address, Proceedings of the All India Museums Conference, Feb. 1-4 1971, *Museum Architecture*, Museums Association of India, New Delhi, p.10.

[3]. Bruno Molajoli, Museum Architecture, *Organisation of museums- a practical advice*, Unesco, 1960, Paris, pp. 146-147.

and stand equally in need of topographical co-ordination; it would be advisable to take this into account at the town-planning stage, rather than deal with each case separately as it arises, a method which may involve the sacrifice or neglect of many desiderata.

Museums tend nowadays to be regarded more and more as 'cultural centres'. It must therefore be remembered that as such they are visited not only by students but by people with different backgrounds who, if a museum is near enough and easy to reach, may come to it, even with little time to spare, in search of instructive recreation.

Though there is a prejudice against the building of museums in parks or gardens - on the plea that this makes them more difficult to reach and disturbs the tranquillity of such places - these are becoming very popular as the sites of new museums. They offer considerable advantages - a wider choice of detached positions, thus reducing the risk of fire; a relative degree of protection from dust, noise, vibrations, exhaust gases from motor engines or factories, smokes from the houses which are always harmful to works of art.

A belt of trees surrounding the museum building serves as an effective natural filter for dust and for the chemical discharges that pollute the air of a modern industrial town; it also helps to stabilize the humidity of the atmosphere, to which paintings and other organic objects are often sensitive.

The surrounding land may offer space for an instance for an annex, built at a suitable distance from the museum itself, to house various equipment and services, or the stores required for them, which it would be unsafe or, for some reason, inconvenient to stock in the main building.

Moreover, space will always be available - at least in theory - for future expansion, either by enlargement of the original building or by the construction of connected annexes; this is particularly important if the first project has to be restricted in scale for reasons which, though unavoidable, are likely to be transitory'

According to Gwyer's[1] Report, 'Various sites have been suggested from time to time for the Central National Museum but since the preparation of

[1]. *Sir Maurice Gwyer's Report,* Government of India, 1945, p.6

lay-out of New Delhi, the site officially allocated has been at the Kingsway -Queensway crossing. After considering various alternatives, the committee is of opinion that this site offers the best practical prospects.

In advocating this site the committee has in view the potentialities of the adjacent sites. In particular, that any building allocated to the central surveys should be as close as possible to the museum. Only so would it be feasible to maintain the close collaboration between the Museum and the Surveys that is essential for both, and only so would it be possible for the Archaeological and Anthropological Surveys to pool certain of their resources (notably their resources) with the museum. If it were found possible to include the Record Office (National Archives) and the proposed National Library building in the scheme, a further great advantage would accrue.'

Regarding *'Site'* Moti Chandra [1] stated 'in selecting a site for building a museum the primary consideration should be that it is capable of accommodating additional buildings in any scheme of future expansion. A well laid garden adds much to the beauty and amenities of a museum and for that (as well ...?)space must be provided. In selecting a museum site it is necessary that it should be within such distance as to be easily approachable. As far as possible the museum site should be in the educational quarter of the city. It is also suggested that in town planning schemes of the future museum sites should be marked even though the construction of buildings may take a few years'

Bose [2] stated, 'Selecting a suitable site for a museum is as important as planning the museum building. Given a choice what site should be selected for a museum? Should it be located near schools or colleges so that one is always assured that at least a selection of students continually benefit from the museum? Sometimes there are localities which are already important because of some ancient monuments or picturesque gardens which are frequented by the visitors.

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[1] . Moti Chandra, Museum Architecture, *Journal of Indian Museums*, v.3, 1952, Museums Association of India, New Delhi, pp.44-45.

[2] . A. Bose, Planning a Building for a Small Museum, *Small Museum*, Museums Association of India, New Delhi, 1975, pp.65-66.

According to Parr[1], among the possibilities and realities of museum sites are central locations in the hub and hubbub of metropolitan activities, outer urban locales in residential neighbourhoods reached mainly on foot or by common carrier, peripheral suburban spots where the visitors would mostly arrive by private car or special transportation. Recently I had been to Heelsingor in Denmark which is about 43 Km. from Copenhagen and where the Danish Museum of Science and Technology has been located. The museum is situated inside a lovely park which was once upon a time used as coastal battery. Had it been in India the planners would have avoided such a place because of difficulty in communication but it has proved a suitable site in Denmark. A suitable place for locating a museum in India will, therefore, be guided by the fact that it is in a central area or an important area easily approachable by the city's normal transport systems. Just for the sake of having a beautiful architectural facade one should not be tempted to build a museum in isolation in beautiful surroundings or a park. What we may gain in grandeur may be lost due to lack of accessibility because the museum is always meant for the visitors'.

Normally there should be plenty of open area round the museum building for the sake of architectural openness. Open air exhibits like the chariot in the National Museum, New Delhi(it may be a publishing oversight as a chariot is displayed outdoors in Crafts Museum) or the Francis Turbine in the Visvesvaraya Museum or the sculptures in Government Museum, Bangalore, would lend beauty to the surroundings. When the museum's doors are still not open to the visitors or when it is just after closing time, the visitors will be inclined to wait and discuss, and so an open area becomes useful and gives them an opportunity to browse'.

Satya Prakash[2] stated, 'in the event of the museum choosing some site for the museum building, and also for planning a building, which is to suit the museum requirements from the functional points of view- both technical and educational -it should be seen that:
a) it is centrally located;
b) The plot for the building is ample and should allow for future growth;
c)The plot is dry, free from dampness, by being far from any pond or tank;
d) It is not an annexe to a library, to a townhall or to any other similar building;

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[1] . A.E. Parr, Problems of Museum Architecture, *Curator*, IV/4, 1961, P.305.

[2] . Dr. Satya Prakash, Small Museums : Building and Allied Requirements, *Small Museums*, Museums Association of India, New Delhi, 1975, pp.12-13.

e) If the plot is to have northern exposure, when the building is to be constituted on it , its choice may be preferred because the sun's rays are never strong in this direction'.

According to Bhowmik,[1] 'in India museums were established in proximity to pubic to public libraries, great centres of education, historical sites and monuments, religious centres, medieval *maths* and big temples, particularly of south India. The genesis of museum establishment in India is traced to the formation of the Asiatic Society of Bengal, Calcutta(1784). Following it the Government Museum, Madras(1851), the Bangiya Sahitya Parishad Chitrasala, Calcutta(1893), the Nalanda Museum in Bihar (1917) took their final forms and developments as off shoots of activities of the library and great centre of education such as the Asiatic Society of Bengal, the Madras Literary Society, a branch of the Asiatic Society of London and the Connemara Public Library, the Bangiya Sahitya Parishad, the Nalanda Buddhist Mahavir and Nalanda Library respectively. In western and peninsular India specimens and antiquities were collected and preserved by libraries, and as a result, ultimately formed a museum which is known as *Saraswati Bhandar*(e.g., the Saraswati Bhavan, Kotah in Rajasthan) and *Saraswati Mahal* at Thanjur in Tamilnadu. The *Saraswati Bhandars* of western India were particularly rich in Jaina antiquities. These are practically the library-cum-museums, and usually situated very close to each other. For example, the Tanjore Art Gallery and Saraswati Mahal are suitably located in two adjacent buildings situated in the same compound. The whole complex of the palace building is known as Saraswati Mahal. The Art Gallery has sprung up ultimately from the previous Rajaraja Museum in the Brihadiswara temple in Tanjore.

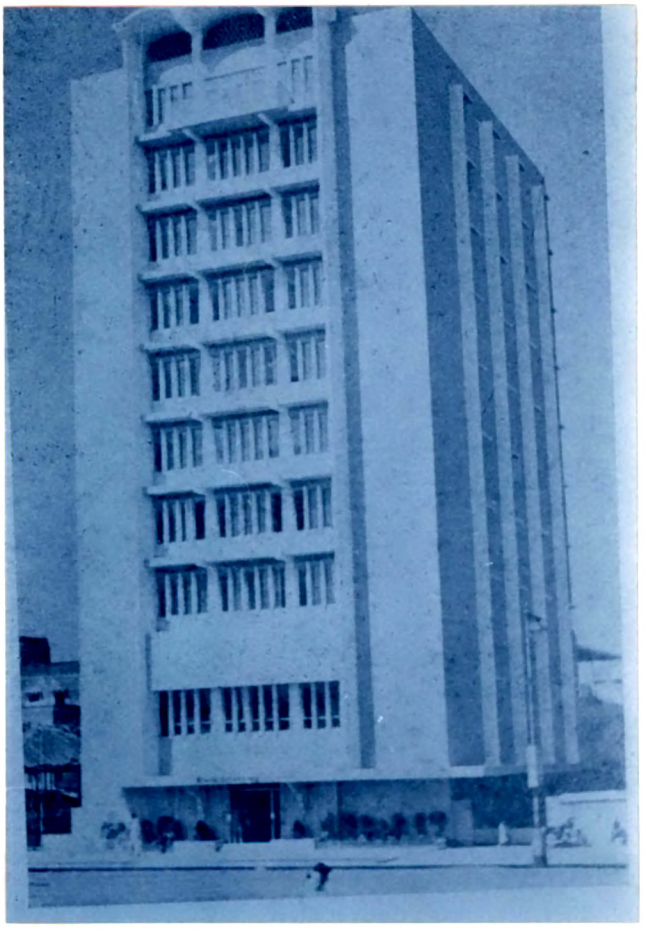
Maths and temples in India are playing the function of cultural, economic, social, religious and educational institutions. Considering the latest function, a temple may be regarded as a museum. The Shirr Chitrapur Math and Art Gallery, Shirali (uttar Kanara) Karnataka (1973) originated around a *math*. The Srirangam Devastanam Museum, Sriranagam, Tamilnadu (1935) and the Art Museum, the Sri Meenakshi Sundareshwar temple, Madurai (1966) are nothing but temple museums in India.

The Shri Venkateswara Museum at Tirupati in Andhra Pradesh (1950) has been named after the famous Venkateswara temple. The museum was

[1] . A.C. Bhowmik, Concept, Nomenclature, Connotation and Definition of Museum, *Journal of Indian Museums,* v.XXXXII, 1986, Museums Association of India, New Delhi. pp.26-27.

Birla Academy of Art, Calcutta.(Courtesy- *Modern Museum,* Anubhav Publications)

View of the Getty Centre, looking south east towards downtown Los Angeles.(Courtesy- *Museum International*, v.49, n.4, Unesco)



established by the joint efforts of the Venkateswara University Oriental Research Institute and the Tirupati Temple Devasthanam (T.T.D.) Authority'.

The author further gives an account of several Archaeological site museums established at places of historical importance, forts, prisons and other monuments. Museums at Mysore Palace, Red fort, Andaman prison are a few examples of this.

Though the foregoing gives about various considerations to be kept in mind in selection of a suitable site in terms of architectural, technical, aesthetic, educational, transportation and public requirements; one crucial factor to be kept in mind is the community that resides in its neighbourhood. Museological literature is replete with the implications of this factor on the success of a museum building. Justifiably, the success of a public building like museum depends upon the support it enjoys from its immediate neighbours than anyone else. Experiment done by the Smithsonian institution to attract a segment of its non-visitors is somewhat akin to the case in point. Establishment of Anacostia neighbourhood museum is a renowned example of this in the direction of 'image building'. Its unfortunate though similar needs arose and similar problems were confronted with in Indian context, they went unreported. The Birla ~~Institute~~ Academy of Art at Calcutta is an example of it. Though not a museum exactly, it is a cultural centre meant to impart entertainment to general public and training to the youngsters through its hobby centre that operates during evening hours. Situated in an impoverished neighbourhood, it faced lot of hostility from the adjacent residents who could not view it sympathetically. It is stated by Bedekar* during one of his lectures, that the slum dwellers or the residents of ghettos used to throw stones at the glass panes of the building and cause damage to the building property. Though this was an unfortunate situation that was known to be come over, it is a classic example of harsh sociological reality. The sentiments of their people, their immediate needs and their economic status have to be taken into consideration while deciding the site. Here, in this case the neighbours do not have anything in conformity with the institution. The target audience or visitors of the institution hail from a different segment of the society than from where it is situated. This only prompts resentment, hostility, friction and confrontation from an ill-informed neighbour.
(*Prof.V.H Bedekar stated during his lecture on 5th December, 1997 at the Department of Museology that Birla ~~Institute~~ Academy of Art is established in a seven storeyed building in a poor neighbourhood, much to the chagrin of

locals. He further mentioned that it used to organise activities on dance, drama, music and painting through its hobby centre in the evenings.)

Discussing about altogether another angle i.e. of conservation, on how selection of Site will have an influence on the design of the museum building, Bhoumik[1] stated, 'India is a country having diverse climatic conditions. The planning and construction of a museum building therefore must take into consideration the prevailing climatic conditions of the place where the museum is to be situated. The problem of design of a museum building in India is how best to avoid excessive light, heat, humidity, dust, rain, insect pests, while one of the chief problems in Europe is how to get as much light as possible. Of course, the museum architect of India has to learn many important features of museum designing from Europe and America, but they should be suitably modified in India, keeping in mind the varying local conditions. As for instance, the chief problem of museum architecture in Northern India would be how to avoid heat and dust, while on the other hand, in peninsular India, where annual rainfall is more than 80 inches, humidity high, and the atmosphere contains soluble salt, especially near the coastal region, the problem is how to avoid the entry of rain, humidity and soluble salts inside the museum building, in addition to protection, against dust and heat. In this way due to climatological and environmental peculiarities, the design and construction of a museum building in one region cannot be suitable for another region of India.

The museum site should be selected in a place, where dust and harmful gases are usually absent or at least scanty. Location of museum buildings in parks or gardens offer many advantages. This reduces the risk of fires, gives protection against dust, exhaust gases coming from factories, engines, and smoke from chimneys of houses and heating plants. A belt of trees surrounding the museum building also helps to bring stability of atmospheric humidity'.

Compound:

The open space surrounding the museum building is considered as the compound of the museum. Though not a must, this is a common feature with any other building of any type. But in case of museum it has prominence. The details of it are as below:

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[1] . S K. Bhoumik, Design of a museum building and preservation, *Conservation in the tropics*, International Centre for Conservation, Rome and National Museum, New Delhi, 1972, p.79.

The compound area for the museum buildings is seen either missing or inadequate with quite a few leading museums. The first established museum of India, the Indian Museum Calcutta lacks a compound of its own. The details of shortcomings and limitations that arise out of the absence of it with any museum building would be given at the end of this discussion. Victoria Memorial Hall is an exception and has sufficient area surrounding it. Birla Industrial and Technological Museum has negligible compound area. It is obvious as this museum is housed in an adapted residential bungalow. The Asutosh Museum also lacks a compound in its periphery.

The National Museum also lacks sufficient compound area. The National Museum of Natural History has a moderate compound space. National Gallery of Modern Art is an exception and has sufficient compound of its own. Similarly, the Nehru Memorial Museum also has ample compound space surrounding it.

The Prince of Wales Museum has a modest compound area surrounding it.

The Salar Jung Museum, Hyderabad has enough compound area. The above conclusions are drawn based on the following criteria.

A modern museum building is advised to be built in isolation on a site with sufficient open area surrounding it. There are functional, aesthetic and security reasons for that. As a first benefit, this allows future expansion of a museum building. Staff quarters could be built on the same campus. Specially it is beneficial to have the residences of the curatorial and security staff on the museum premises. It could be used to display some garden sculptures and create a mood for the museum visit. It helps the museum building to be away from the neighbouring buildings and thus the museum building could be insulated from hazards like fire. Even the physical security arrangements could be provided in a better way to a solitary building. Some of the basic needs of the visitors - like a resting area in the form of a lawn or a shaded place, a restaurant, toilets and parking zones could be provided. Further, some educational and territorial activities can be organized for the visitors on the premises.

The analysis of the compound areas of the museums described earlier is as below. The building of the Indian Museum, Calcutta can't expand and does not offer any of the above facilities provided by a spacious

Staff quarters of Salar Jung Museum, view from the museum.

compound. The Birla Industrial and Technological Museum has an aquarium and aviarium outside the museum building in its compound. But the fact that the fleet of museobuses of the National Council of Science Museums parked on the way to museums indicate the inadequacy of the compound and absence of a separate parking lot for the vehicles of the institution.

The National Museum does not permit visitors vehicles inside its compound as it lacks the provision of a parking lot. But this museum has space for future expansion as it was envisaged in the planning of this building. Similarly, even the National Museum of Natural History also lacks a parking zone for visitors within its compound, but the by-lane next to it provides for ample parking lot.

The Prince of Wales Museum at Mumbai allows only light commercial vehicles i.e. small four wheelers to the size of car and its equivalent into its compound and restricts the entry of heavy vehicles. There is no scope for future expansion of this building. But there is sufficient compound space in this museum for the visitors to relax after the museum visit. However, the distribution of compound space is not uniform. There should have been more space behind the building also as it has towards the front side; which could have kept the museum away from the noise of the heavy vehicular traffic surrounding the building. The disturbance caused by the adjoining road on the back side of the building could be easily felt by the visitors while viewing its pre-historic gallery or by scholars in using its reference library.

The compound of Salar Jung Museum seems to be sufficient. There is enough space for the visitors to relax, park their vehicles. Further, there is a make-shift cafeteria near the entrance. Also there are staff quarters on the backyard of the museum building.

The museum and picture gallery is located in public garden and has sufficient compound for various public facilities and museum activities.

Sometimes the compound poses strange problems. The following case is an example of that. In his article titled 'museum threatens closure' Pandya[1] reported, 'the Baroda Museum and Picture Gallery has submitted

[1]. Hitarth Pandya, Museum threatens closure, *The Times of India*, 6-9-1998, Ahmedabad.

a memorandum to the Vadodara Municipal Corporation to open the main gates of the Kamatibaug Zoo within 10 days.

The memorandum which has been submitted to Vadodara Municipal Corporation commissioner, says if the civic authorities fail to reopen the gate to public within 10 days, the museum will be constrained to close down.

When contacted the Museum curator, Satish Sadashivan told *The Times of India* the number of visitors had gone down considerably after closure of the gate . "Most visitors who come from out-station return after reading the notice posted by the VMC."

According to Sadashivan the number of visitors was over 7,000 per day before the closure and today the number had decreased to just 500. He added, "not only has the number of visitors declined, routine activities have also been affected by the move."

Officials at the museum felt the closure of the gate would prove detrimental in the event of accidents like fire as the access to the museum would be a hurdle for fire officials. The VMC had closed the gates to prevent disturbance to animals and birds of the zoo and to support the environment movement.

Asked whether there was an alternative to the problem Sadashiv said "the museum authorities have asked the gate number two, which is opposite the fine arts faculty, be opened. It will not affect the animals any way."

Meanwhile, municipal commissioner has assured the issue would be taken up during the co-ordination committee meeting scheduled to take place on September 19th.
(This in interesting case as the area in which the institution is located and its surroundings belong two different governing authorities. When there is no co-ordination and communication between them regarding their policy matters and their implications, it results in a critical situation like this. To begin with, Baroda Museum and Picture Gallery is under the governance of the Department of Museums of the Government of Gujarat. Sayaji Garden (Kamatibaug) in which it is located is under the authority of Vadodara (Baroda) Municipal Corporation (VMC). When the Museum was established both were under the governance of erstwhile Baroda

(Princely) State. The change of times have brought change in administrative authority with these two units.

At the out set it would be useful to know that the move for closure of gate number two of this garden is not new and has been in demand for a very long time. The other 'institution'(zoo) whose inmates are suffering because of its opening; is also incidentally under the authority and governance of local administration. Further more with depleting natural resources and dwindling wildlife, environmental issues are increasingly gaining currency and able to influence policy matters and decision making. Prior to closing this gate, which also leads to Museum, the Corporation has constructed an alternative route over considerably long period in the near vicinity to facilitate traffic flow. It comes as a surprise to any concerned observer, to concede that the museum authorities are unaware of any of these developments. If yes, there was never a public statement or issue of a notification to that effect to explain their stand or view point regarding the matter. The entire episode and the press briefing on the issue convey lack of an effective public relation mechanism on the part of the Museum. Though the above stated deadline regarding the assurance of a decision passed away unnoticed, there is no change in the *status quo* on the stand taken by the Vadodara Municipal Corporation and the gate continues to remain closed. The author feels that whatever might be the difficulty on the part of Museum in the past to take timely remedial action to avoid the present predicament, it could be proactive now by putting up or posting a banner making an announcement that the gate is only closed for vehicular traffic and the visitors as pedestrians are most welcome. Of course, in course of time if it could make the entrance at the gate of the garden more warm and inviting by getting it opened, it would always be better. It should continue its effort to convince the Corporation to close the vehicular traffic beyond the passage of the museum.)

Style:

According to Coleman,[1] 'the formative years of museum building, fall into two groups that are very different with respect to what they brought forth. The earlier group produced museums in the old eclectic spirit of architecture. The later group showed a general turn to contemporary style.

[1] . op.cit., Laurence Vail Coleman, pp.3-6.

The general adoption of modern style was evidence of a fundamental change in architectural purpose and method. This involved rejection of the formal dictates of styles handed down from the past, in favour of fresh consideration for needs of today and efforts to serve these needs creatively in the light of contemporary aesthetic ideas and wish the help of modern means. For museums, the most obvious part of the change was the virtual disappearance of the temple form, with its colonnade porticos and long flight of approaching steps ; of the church form, with its borrowed temple members, and its piers, arches, vaults, and dome ; and of the palace form, with its balanced plan, its formal staircase, and perhaps its cloistered court colonnade halls. For these stylistic forms, born of bygone ways, were substituted clear expressions of present needs, employing steel, concrete glass, and other materials, including stone, in up-to-date construction recognizing modern developments in mechanical, illuminating, and heating and ventilating engineering.

Modern Features, which characterize recent museums as a class, are not all of them wholly new. Some of them appeared rather as tendencies, emerging from decades of growth and lately released for further development by the advent of modern style. Other features are unmistakably new, marking decisive advances in thought and action that are part of the recent change.

The most familiar of present-day features is one that has come step by step. This is full provision for efficient work of the staff. One need only recall the old kind of building designed almost wholly for exhibits, to appreciate the individuality of present type with its conveniently placed administrative offices, curatorial rooms and live storages, a library reading room and stacks, a well appointed auditorium, room for class work, facilities for lending to schools, a place for receiving temporary loans and for unpacking, registering, packing, and shipping, a superintendents office, a photographer's laboratory, a print shop, artisans' studios and mechanical shops of different kinds and accommodation for the manual force and labour.'

Further Coleman[1] stated, 'many museums of the past could have saved from 10 percent to 25 percent or more of initial cost (to say nothing of yearly losses for many a year through inefficiency) by cutting out features prompted only by a *style'*.

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[1] . op.cit., Laurence Vail Coleman, p.41.

In relation to character, Coleman[1] further stated about style the following:

'Architectural fitness depends, by a defining principle of architecture, upon the justice of relationships between different sides of a building's nature. The materials employed, the structure made of them, and the forms and spaces so evolved must reckon on the one hand with the practical purposes of the building and on the other with aesthetic effects. Through means at the architect's disposal the building thus becomes at once a thing of utility and a creative work. The manner of this whole expression is architectural style, which is no less than a summation of the building's character as shaped by circumstances of its time and place in the world. However, what is often called style is in fact embellishment, applied to surfaces like make up. Such stylistic adornment may be suggested by the true style of the age, or by the style of some earlier age remembered in history and recorded in old buildings. Great styles of the past, say Greek or Gothic, at their height have shown close integration of all elements in the nature of buildings. At other times there have been evidences of a split between structure and stylistic treatment. When functions of buildings are in most rapid flux there is likely to be the wildest gap ; and this condition is sure to be recognized, sooner or later, as an architectural fault.'

Different architectural styles of buildings were in vogue during different times. These styles were based on the available structural designs and nature of construction material of those times. The purpose built museums constructed during the last century and beginning of this century are based on the patterns in vogue by then. Thus, the museum buildings of India belong to various styles. The Prince of Wales Museum, Mumbai is of Indo-Saracenic styles, the Central Museum, Jaipur is of Oriental style and the Indian Museum, Calcutta is of Classic European style. A look at these buildings would reveal that they are different in form and features. The Museum and Picture Gallery, Baroda and the Prince of Wales Museum, Mumbai have central halls and high raise buildings. Whereas the Indian Museum, Calcutta has long corridors with an array of pillars supporting them. Unlike the former two, the Indian Museum Calcutta is a quadrangular structure. Of course, the above features may not be the characteristics of these styles. Though, the modern museums are not reported to belong to a specific style, they attempt to be unique in their outward appearance. The National Museum has a central rotunda and an

[1] . op.cit., Laurence Vail Coleman, p.51.

open space at the centre with galleries constructed surrounding it in three floors. The National Science Centre, New Delhi is a stratified building which is to be viewed in a descending order. The National Handlooms and Handicrafts Museum is a cluster of units. Similar is the case with the National Museum of Man, Bhopal.

Stating about the needs of Science Museums, R.C.Chandra[1] mentioned 'ornamental and decorative architecture has fallen out of stride and appears out of place as the background of modern exhibition display.

The building of Birla Industrial and Technological Museum, Calcutta initially built for domestic purposes in the earlier part of this century, had all kinds of decorations like wall mirrors with relief, wooden and plaster mouldings, heavy cornices, decorated doors and other such ornamental fixtures which were popular in those days; but for a modern exhibition these were unsuitable.

A major alteration was necessary and the partition walls of the smaller rooms including the decorative trappings had to be removed to provide larger space for exhibitions.

The modern trend is to have simple interiors, spacious exhibition halls in which it is possible to have a view unobstructed by pillars or load bearing walls'.

Regarding style Molajoli[2] stated, 'according to a prejudice which, though gradually dying, is still fairly common, a museum building should be *imposing in appearance, solemn and monumental.* The worst of it is that this effect is often sought through the adoption of an *archaic style* of architecture. The result of this are deplorable buildings, with a markedly *anti-historical impression,* just because they used to be inspired by a false view of history. Another outmoded prejudice is that which demands a 'classical' setting for ancient works of art, as though their venerable dignity would suffer and their aesthetic value be diminished if they were placed in modern surroundings.

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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, 1971, p.34.

[2] . op.cit., Bruno Molajoli, p.148.

But *though the style of the building should be frankly contemporary* and governed by the creative imagination of its designer, architectural interest must not be an end in itself, but should be *subordinated to the purpose in view*. A museum in which the *works of art were relegated to the background* and used to 'compete' a pretentious architectural scheme, could not be regarded as successful; but neither could a museum which went to the *other extreme*, where the construction was subordinate to cold, mechanical functional considerations so that *no spatial relationship could be created between the works of art and other exhibits*- a museum with a completely *impersonal atmosphere'*.

According to Molajoli,[1] 'in a museum it would be unsuitable to design the entrance hall on a massive or pompous scale, as was customary in the past, making it unnecessarily lofty, and to decorate it in monumental style. Modern architects increasingly tend to reduce overhead space and give the greatest possible width and depth, producing a balanced effect of greater intimacy and attraction. It should provide an easy introduction to the building, a point from which the individual visitor can find his way without difficulty and where large parties can be assembled and greeted. It must therefore be fairly spacious, and provided with the strict minimum of sturdily built furniture. (one or two tables for the sale of tickets, catalogues, etc., a cloakroom, a few benches or chairs, a notice-board, a general plan of the museum to guide visitors, a clock, and perhaps a public telephone booth and a letter-box). It is not advisable to have only one door from here into the exhibition rooms ; there should be two, an entrance and an exit, far enough apart to prevent delay should there be a crowd but placed in such a way that both can be easily watched at the same time'.

Satya Prakash Srivastava[2] quoted, Mrs.Munk as saying, "It is very difficult to reproduce the exact traditional style in building a museum but at the same time it should not be altogether neglected in the building. Traditional style is important because it has evolved in the course of several hundred years, according to the needs of the people, 'modern' does not necessarily mean American or European." She gave an example of the Japanese

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[1] . ibid., p.162.

[2] . 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).

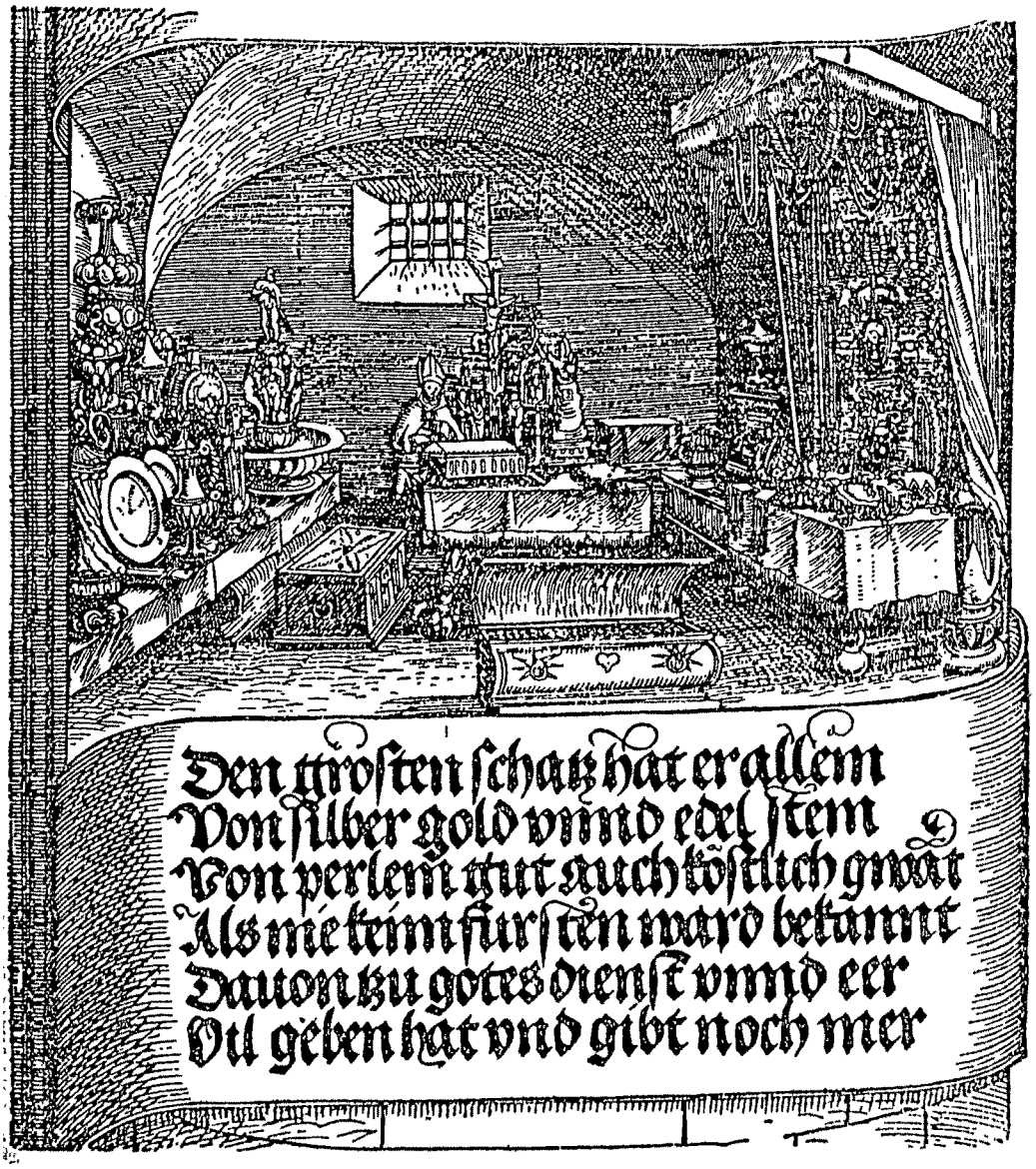
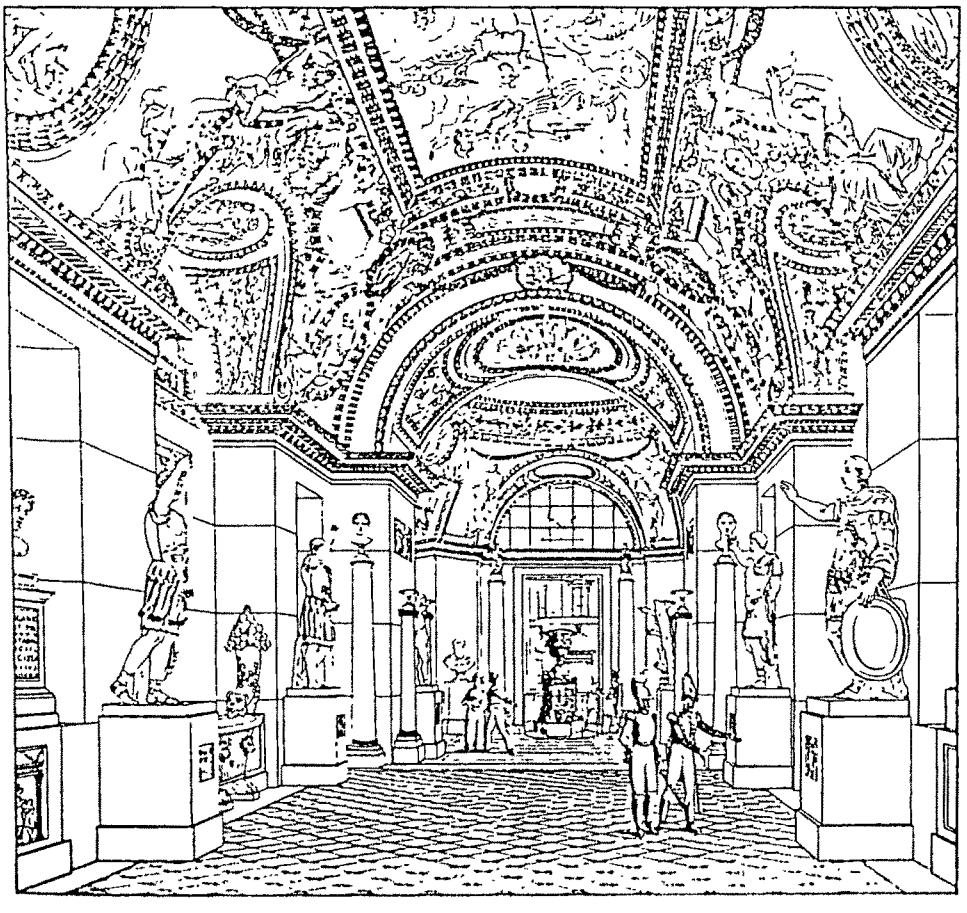


FIG. 1.—The treasure chamber of the princes of Hapsburg, rulers of Austria. Woodcut by Albrecht Altdorfer, of 1515, from the series of illustrations known as *Die Ehrenpforte* (Arch of Honour) in which homage was paid to the reigning emperor Maximilian I. According to this picture the contents of the Hapsburg treasure chamber were ordered in three groups :—plate, reliquaries and vessels for church service, and imperial insignia. In the foreground stands a chest with coined money of which, in reality, Maximilian I was often short.

Figure 13. Eighteenth-century blueprint for a gentleman's "museum." From Neickelius' *Museographia*, Leipzig, 1727.

Figure 5 The Hall of Roman Emperors in Napoleon Bonaparte's Louvre Museum had two connotations: it reinforced the popular current mythology of the benefits derived by France from being ruled by Emperor Napoleon, and it was part of a general European ideology in which the Roman empire was a Golden Past Engraving by Hibon after a painting by Cibeton. (By courtesy of the Louvre Museum)



architect Kenso Tanee who has planned museum buildings taking into consideration the traditional and modern styles'.

Regarding style, Moti Chandra[1] wrote, 'with the dawn of Indian renaissance, naturally our minds seek inspiration from our ancient cultural heritage. Our attention is forcibly drawn to the beauties of our paintings and sculpture, and the superb attainments of our architecture. This understanding of our ancient art and architecture is reflected in our modern public buildings which are designed after some ancient monument. This tendency has to be discouraged as far as museum buildings are concerned, as ancient architectural features laying emphasis on the external decorations are utterly unsuitable for a modern museum building. The external mouldings, carvings and perforated screens gather dust, moss and lichen which create a problem for the caretaking department of the museum. Besides the outward decorations consisting of friezes, carved columns, cornices, towers, domes and cupolas etc., overwhelm the vision of a visitor as soon as he enters the museum compound and thus detract his attention from the exhibits within a museum itself. Such decoration is also a costly affair and if accepted swallows the major part of the budget sanctioned for the building with the result that not much attention can be paid to the interior decoration which really matters. It is suggested, therefore, that the design of a museum building should be plain though certain plain features of local or provincial architecture could be incorporated'.

Alma Wittlin[2] further stated about 'the manners and modes presentation of specimens'as

'The Store -Room Style of Presentation, such as may have been used in the treasure chamber of a wealthy personage in ancient Greece, in a medieval cathedral, all to satisfy the need for safely keeping the stored articles for eventual future use .(fig.) It was implied that whatever the character of the stored articles, they would be taken out of store and transferred to other rooms where they were to be used . Hence, the requirement firstly of economy of space, secondly of a reasonable

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[1] . op.cit., Moti Chandra, 1952, pp.43-44.

[2] . Alma S. Wittlin, *The Museum its history and its tasks in education*, Routledge & Kegan Paul Limited, London, 1949, pp.80-81.

Courtyard with a shallow pond at Sabarmati Ashram, Ahmedabad.
(Courtesy- *Museum.* v. XLI, n.4, Unesco)

Prospective museum personnel learning to study architectural plans.

accessibility of the objects, and furthermore the lack of interest in any arrangement that as a whole would amount to a decorative display.

Throughout the period up to 1914, the European museum on the whole remained an accumulation of objects acquired to a great extent in a haphazard mannner, very often through donations. Only exceptionally did the manner of presentation merit the term systematic. More often than not the collections were inadequately housed, in indifferent buildings or in pretentious structures faking the style of Greek temples, Renaissance or mediaeval cathedrals.'

Planning and Designing of the Building:

Role of architect and curator in planning ,designing and construction of a museum building was discussed at length during professional fora and was reported in the museological literature. The following is not a mere repetition, but a summary of it. It would be contextual here to touch upon the significance of the roles of these two professionals and the inclusion a host of other experts such as planners, designers, builders, conservators, security personnel etc. who could render valuable suggestions if included as part of a 'building committee' right from the beginning. Further, complexity involved in the construction of a successful museum building is it would be advisable to have a team work all throughout the execution of the project. All mega projects involved in the construction of large museums will have *planning and execution committees* of the building to ensure proper supervision and accomplishment of the task. The review of the success of purpose built museum buildings of the country would reveal that it is a challenging job to build a proper museum building. Museums being public institutions involving considerable expenditure need to have a life of at least half a century with a provision for future expansion. Architect has a great role to play in giving shape to the building as per the requirements of a curator, whereas curator has the primary responsibility of making the architect understand and visualize his needs and specifications. Periodic assessment of the project during different stages of construction is a must by all the concerned people.

Contracts of the museum buildings given to architects in different methods, for various reasons. They may be given to a leading architect of that area. For example, Museum of the Sardar Patel University at Vallabh Vidyanagar is designed by Suryakant Patel of Baroda. At times the contract may be given to an architect experienced in construction of museum buildings. Mahatma Gandhi Sangrahalaya at Sabarmati,

Ahmedabad; Bharat Bhavan at Bhopal and the National Handlooms and Handicrafts Museum at New Delhi were constructed by a renowned architect, Charles Correa. Similarly, the Sanskar Kendra at Ahmedabad and the Government Museum and Art Gallery Chandigarh were designed by Le Corbusier, a famous French architect. The architect may also be selected out of a competition.

There are arguments both in favour and against each of the above mentioned methods of selection of an architect. For example, it is said that in competition, the architect may concentrate only on winning the project without having prior idea about the nature and scope of museum and its requirements and hence he may fail in constructing an appropriate building for the museum. Similarly, a reputed local architect need not necessarily be good at building a successful museum due to lack of experience or perception about a museum building, whose requirements substantially differ from other public places. One has to weigh the pros and cons of all these factors to ensure the construction of a required museum building.

As Morley[1] stated, 'there is a great temptation for everyone, when planning a museum, to remember one that he had enjoyed and therefore to have that duplicated, possible in reduced size, without giving thought to how his museum differs from the model, but especially forgetting how times have changed and the whole concept of the museum as well.' But, this may lead to a disaster as the climatic requirements of a building may differ from place to place. It is not unusual to send museum personnel of the developing countries like India to Europe and America to view successful museums prior to construction of particular galleries and museums. Smita Baxi and Dwivedi of the display section of the National Museum were sent to America to get an idea for the construction of Pre-Colu mbian gallery at this institution. The purpose of these visits by museum personnel is to gain knowledge regarding the styles and designs of the galleries and museums to suit alien collections, but not merely to imitate them. Similarly, the nature of collections is one among the most important thing that defines and dictates the shape of a museum building. The nature of the objects and their size, shape, bulk, mechanics of their installation and other specific requirements will have a serious bearing on the designing of a museum building. Thus, the construction of National

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[1] . Grace Morley, Museums and Architecture, *Museum Architecture*, Museums Association of India, New Delhi, 1971, p.16.

Handlooms and Handicrafts Museum and the National Museum of Man are different with that of others.

An account of the architects of some large museum buildings in Indian context is as follows:

The Museum and Picture Gallery, Baroda; was designed by the architects R.N. Chisolm and F. M. Mant. The Prince of Wales Museum, Mumbai was designed by W.G.Wittet. The famous building of the Government Museum, Jodhpur which is extensively praised by Sir S.F. Markham and H. Hargreaves was designed by G.M. Goldstraw. Among the modern museums the National Museum, New Delhi was designed by Deolalikar and The Nehru Science Center in Mumbai and the National Science Centre in New Delhi were designed by Kanvinde.

According to Coleman[1] 'Site planning is a concern of the architect. Without the architect's counsel, the treatment of even a favourable plot may undo the best of designs.'

According to Hebditch,[2] 'any assessment, whether of the use of existing premises, of the possibilities of using other existing buildings, or of commissioning totally new structures must take account of the functions that are to be undertaken.

This process is described as 'programming' : a discipline which is applicable to many types of projects and which in large schemes may require specialists in this field alone as well as curators, architects, engineers and others. Programme exercises should do three things :

(1) Provide those who want the work done ('the client') with the aims of the project, the resources required and a system of control over their realization.
(2) Develop a system for transmitting information and instructions between the client, the architect, the contractors and other parties involved.
(3) Assist all involved in taking the correct decisions at the correct time in the light of the fullest information.

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[1] . op.cit., Laurence Vail Coleman, p.59.

[2] . op.cit., Max Hebditch, p.499.

Programming is not only applicable to commissioning new projects, but also to examining existing premises. As any museum is a dynamic organisation, the programming assessment should also take account of for how long the proposed project will meet the needs which brought it into being.

The use of existing premises-

The activities of a museum will need to be defined in the light of the individual circumstances affecting each museum. Particularly taking into consideration relevant administrative factors bearing upon each activity. Such factors will include : numbers and movements of people (both staff and museums users) ;numbers and movements of objects and related data; overall staff organization ; the extent of exhibition production and other capabilities : conservation and other needs.

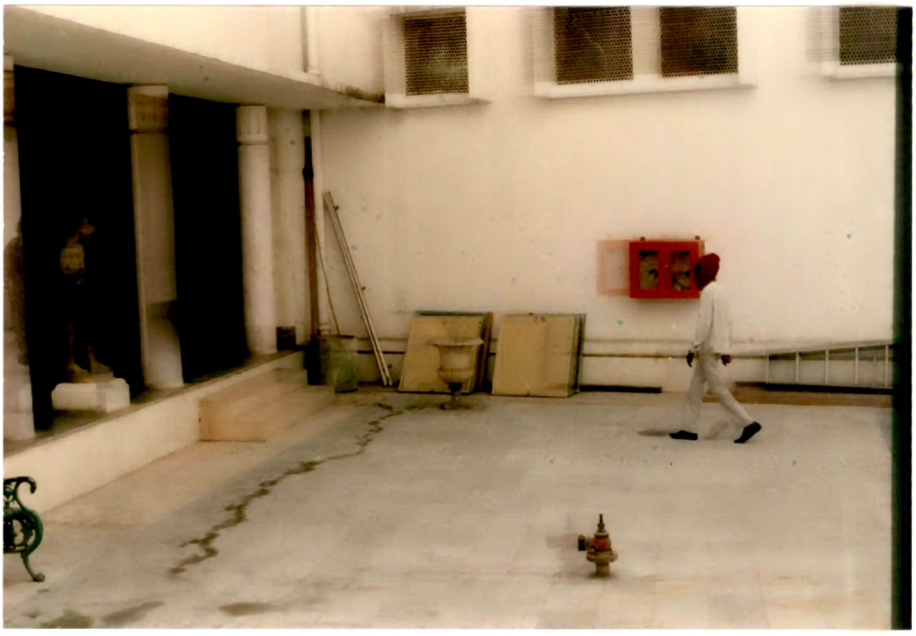
Of course, the basis of any museum operation is that there should be a relationship with the public. Any thinking about space must aim to facilitate that relationship, whether with the casual visitor or the specialist. The reception of the visitor is thus the kernel of the operation. Around this are grouped the resources of objects, information and expertise to which the visitor requires access. Around that are the various support services required to make a useful relationship between the user and the museum's resources'.

Hebditch[1] further stated, 'it is of course, a prerequisite that any building for museum use should be structurally sound. The checking of this is a matter for a professional architect or a building surveyor. However, it is not difficult for the curator on a preliminary inspection to form some assessment of the soundness of walls, roofs, windows, floors and so on by applying the ordinary skills he or she would apply to buying a house. Similarly, one can make initial enquiries about planning proposals for the area which may affect an existing or proposed museum.

However, museums are often so desperate for accommodation that critical faculties are sometimes dimmed. Two points should be borne in mind. First, do not get so carried away with the potential of a site or building that the realities of siting or the cost of restoring a dilapidated structure are ignored. Second, the requirements of good access, plenty of storage

[1] . op.cit. , Max Hebditch, p. 502.

Fire hydrant and fire cabinet in the courtyard of Salar Jung Museum.



A blurred picture showing a handicapped person struggling to alight the steps. Lack of alternate arrangements for the disabled make their visit a difficult task.

A handicapped person visiting Salar Jung Museum.


PICTURE GALLERY

space, good floor loading, ample display space and so on which may be lacking; should be taken into consideration.

The environment required for museum objects is well-understood and specifications for temperature, humidity, lighting and dust can all be provided. It is necessary to decide in each instance the extent to which the ideals can be achieved in relation to available to finance and the importance of the material. However, impress upon the professional adviser that air-conditions, if specified, is for the comfort of the collections, not the staff and public. Buildings must also be free of pests and any materials to be used should be unattractive to pests.

Floor loading and ceiling heights must also be adequate to accommodate the proposed collections or exhibitions. Adequate and flexible lighting systems must be provided.

Buildings must also be capable for being made secure and safe both for the staff and the visiting public.

In considering the use of an existing building or proposed alterations to enable another building to be used for museum purposes; there are numerous acts and regulations which have to be observed.

In all these matters the curator will require professional advice from an architect and also from the chief fire officer and the building inspector. It is always wise to establish close contact with the fire department not only at the initial planning stage but with regard to any future plans. It is also very necessary to bear in mind the needs of handicapped visitors, not just the obvious ones on wheelchairs but the needs of the infirm and hard of hearing as well'.

According to Hebditch[1], 'the main consultant with whom the curator will deal in this process is the architect and the relationship between these two people, or groups of people, is very important. Other consultants likely to be appointed, with whom the relationship will be less direct, are structural engineers, quantity surveyors, electrical engineers and mechanical service engineers.

[1] . op.cit., Max Hebditch, pp.503-504.

A brief summary can only examine the main points of which the curator should be aware in the care and use of museum buildings. But it is not possible to leave the subject without reiterating the importance of architecture in the total experience of using a museum. The quality of the experience will be a vital factor in determining whether the visitor finds his use of museum's resources enjoyable and enlightening or a disappointment and an irritation'.

R.C. Chandra[1] speaking on the occasion of Conference on Museum Architecture stated about his visit to the ``Palais de la Decouverte" in Paris. He had observed that they had excellent arrangements for demonstrations and lectures on Chemistry and Static Electricity in their spacious exhibition halls.

Comparing the provision with that of a native example, he stated,'The building of the Birla Industrial and Technological Museum not being initially meant to be a museum is found lacking in these respects. Some of the well known science museums are using their basement for exhibiting true-to-life models of coal mines, which is very effective.

It would be useful therefore if the building meant for a museum is provided with basements designed for setting up such special exhibits.

While still on the question of provisions, I think it is more practical to arrange exhibitions of heavy and massive exhibits such as locomotives, ships, engines, heavy transports on the ground floor for the reasons of safety and easy handling.(The author suggests in addition to the above points, the aspect of logistics should also be taken into consideration.)

Consequently, the height of the ground floor ceiling should be higher than that of the other floors to display such bulky objects. The upper portions of the walls of this gallery may be utilised for painting mural.

(Paintings or murals related to the subject displayed in the galleries will enhance the ambiance in those areas. The upper portion of the walls of this gallery may be utilized for this purpose. This practice is found in the natural history section of the Prince of Wales Museum, Mumbai).

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[1] . op.cit., R. C. Chandra, 1971, p.34.

But, in the case of small exhibits the ceiling should not be too high in order to avoid *'dwarfing effect'* on the objects'.

Satyamurti[1] stated, 'in order to keep an eye on the exhibits or the exhibitions, the display should be so arranged that the least number of supervisors can look after the exhibits and detect any attempt of theft or intentional damage to the exhibits. And for the same reasons, it is advisable to keep curatorial offices attached to their galleries for better co-ordination.

There are of course many other important matters, such as the provisions the provisions of space in the lobby for the reception counter, sales counter for the publications and tickets, seating arrangements for the visitors, and cloak rooms.

To maintain a canteen for the visitors' convenience will be very much appreciated.

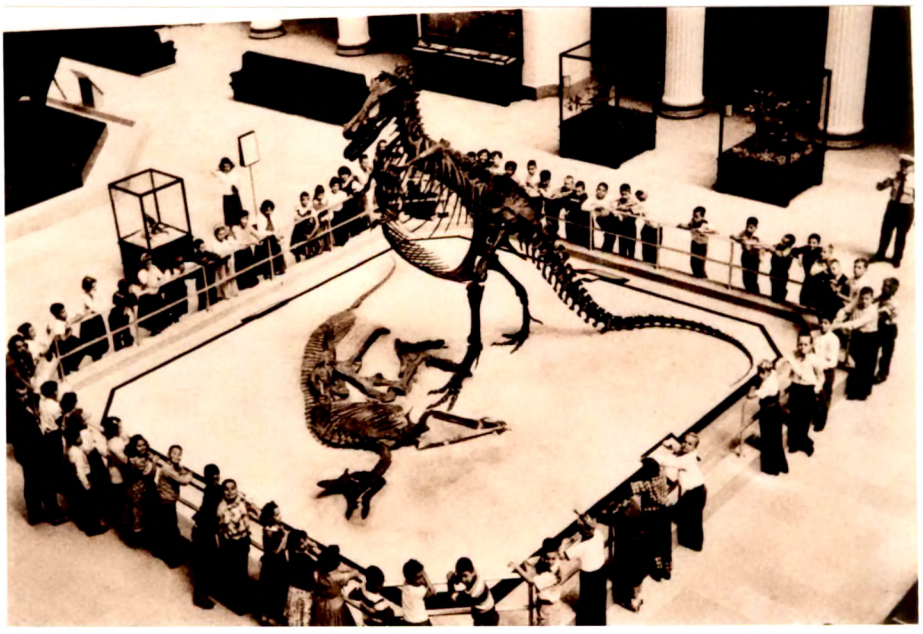
A few more important aspects of architectural requirements are : location and site, character and style of building ; lifts, escalators and staircases, museum library, auditorium, planetarium, car park, temporary exhibition halls, space for open air exhibits, workshop for model making, storage space for models and exhibits; administrative sections, laboratory for the curators.

It is unfortunate that the planning and constructions of the Government Museum buildings in India is generally left entirely to architects and engineers of the Public Works Department, who have no specialised training or experience in museum architecture and designing. Very often, the PWD, who build Government Museum Buildings in India and the museum directors do not discuss matters of design layout and the provision to meet the various specialised requirements of modern museum complex so that the results are not entirely satisfactory. In the planning of modern museum buildings, great care should be taken to provide for adequate space around for future expansions, for a museum is primarily growing institution and requires ample facilities for its growth. Museums that have started their existence in crowded surroundings without allowing sufficient space for expansion sooner or later become cramped and their future

[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, P. 40.

Articulated and/or fossil skeletons are a big draw for all the hype and enthusiasm they constantly generate. The very size of the specimen at times demand large spaces in terms of length, width and height.

The previous exhibition methods of natural history specimens needed large display areas, for example, in the form of dioramas. The modern trends followed in natural history museums no more demand such special provisions.



development threaten to become severely hampered. The Indian Museum in Calcutta, for instance, which is perhaps the largest and finest in the east from the point of view of the richness of its collections, has unfortunately not only an old and unsuitable building but also lacks many essential amenities. There is no space around it for future expansion.

The design of galleries should be determined by the nature of the exhibits that are to be installed in them. The existing old buildings of most of the museums in India are functionally unsuited for modern museum presentation and modern museum functions, and hence the question. adapting old buildings to the present needs poses a different problem to the Indian museologist.

Exhibits and exhibit cases should not fit so harmoniously into a building, that they should form part of the entire structure.

In the American Museum of Natural History, for instance, most of the halls contain huge dioramas or a realistic habitat groups of various animals from the all over the world, the architectural designs of the halls in that museum were eminently suited for the built -in installation of a series of such life-sized illuminated dioramas. When a series of such habitat groups are built in a huge, spacious, pillar less and window less hall so that they apparently constitute part and parcel of the building all round around the wall spaces, the visitor feels as if he is looking out through large windows into distant scenes in wild nature as he walks around the gallery. There are numerous such great halls of habitat groups of birds, mammals, fishes and reptiles from various localities of the world in the American Museum of Natural History and they rightly deserve to be admired as master pieces in the field of museum presentations.

In India, such magnificent museum halls are still only a dream, although a few such large sized habitat groups have been successfully attempted and installed in the Prince of Wales Museum in Mumbai and to a smaller size at the Government Museum in Chennai. But unless the buildings are newly designed and built specially for the museums, the results will fall far short of the ideal.

In Markham and Hargreaves[1] opinion, 'the principle should be to exhibit less, and to reserve more in such a way as to facilitate the work of

[1] . Markham and Hargreaves, *Museums of India*, The Museums Association, London, 1936, pp.65, 97.

students. Most museums are far too overcrowded and have in many cases been built with little regard to the separate needs of different type of people. The Indian Museum is a case in point. When the museum was built, little or no provision was made for the storage of valuable material required for public display. At the time of the inception of the museum research was its infancy in this country, but with increasing activity in this respect and with the steady increase in the collection, the space that was originally meant for public display was taken over for storage rooms. The result has been the most of the galleries are hopelessly overcrowded. The vertebrate galleries are a glaring example of the waste of space that results from the old-fashioned and ill-designed showcases'.

Under the heading *Summary of Recommendations*, the report suggests the following to be followed by Curators, especially those in the smaller museums, as 'In all large museums and galleries clear plans should be placed conspicuously in the entrance hall and at all central and pivotal points indicating quite clearly where the visitor is standing and how he is to find his way to other parts of the building'.

While describing the Museum and Art Gallery, Chandigarh ; Morley[1] noted, 'it is well proportioned, massive, handsome. It has three levels. The ground level contains the reception hall, storage space, the cafeteria, workshops and lecture hall. It is connected with the first floor, the principal exhibition area, by a ramp in the centre of the building's square, rising from the monumental reception hall on the ground floor. Here is the public entrance to the galleries. The second floor is accommodating administrative, curatorial and research offices. The main building is to be supplemented eventually by smaller buildings, to be placed on the far side of the plaza and its fountains in front of the museum building. They will contain an auditorium and a hall for changing exhibitions of contemporary art.

In the absence of any plans by Le Corbusier for the installation, it was necessary to secure an expert to carry out this work. An experienced and sensitive display designer and decorator was secured to do the task.

Flexibility and possibility for change, have not been overlooked in the interior designing, however'.

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[1] . op.cit., Grace Morley, 1970-71, p.292.

According to Molajoli[1], 'the planning of a museum is an outstanding example of the need not only for preliminary and specific agreements but for close and uninterrupted collaboration between the architect and his employer.

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. It is for him to provide the architect with an exact description of the result to be aimed at and the preliminary steps to be taken, and he must be prepared to share in every successive phase of the work- failing which the finished building may fail short in some respects of the many and complex technical and functional demands which a modern museum must satisfy.

Another point to be considered is whether the new building is to house an entirely new museum (whose contents have yet to be assembled) or to afford a permanent home for an existing collection. *In the first case we have the advantage of a free approach to the problem and can decide on an ideal form for the museum* ; but with the attendant drawback of beginning our work in the abstract, on the basis of entirely vague and theoretical assumptions which future developments which future developments will probably not confirm. *In the second case we must take care not to go the opposite extreme by designing a building too precisely adapted to the quality and quantity of the works of collections* which form the nucleus of the museum ; future needs and possibilities of development should always be foreseen and provision made for them'.

Futher expressing his opinion on *Planning,* Molajoli[2] stated as, 'it is hardly necessary to explain, before embarking upon a discussion of the different question that may arise when a museum is being planned and built, that my aim is merely to put forward certain suggestions to serve as practical pointers, based on experience of the subject, with no intention of trespassing upon the domain of the various technical authorities who must be consulted.

The exterior. A museum which is to be built in an isolated spot or reserved space (park, garden etc.) needs to be surrounded by an enclosure,

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[1] . op.cit., Bruno Molajoli, p.147.

[2] . ibid., p.158.

especially if the site form part of an extensive area. For the visitor, this enclosure will provide a foretaste of the museum's architecture, and thus must not constitute a 'psychological barrier', though the fundamental aim of security, which it has to serve, must not be sacrificed.

If, on the contrary, the museum is to overlook a public street, it will always be advisable : (a) to separate it from the stream of traffic by a belt of trees or even by flowerbeds; (b) to set back the entrance in a quite corner: (c) to allow space for a public car park.

The architect should think of the building he has been asked to design as an organism capable of growing, and therefore provide from the outset for suitable possibilities of expansion, so that when the time comes for this will not require far-reaching and costly alterations. He should regard the portion to be built as the nucleus of a cell, capable of multiplying itself or at least of joining up, according to plan, with future enlargements.

Where space permits, it is best to allow for horizontal expansion.

Renouncing all pretensions to a monumental style is essential to the outward appearance of the building-especially if overhead lighting is adopted, so that there are no windows to break the surface-should be distinguished by a simple balance of line and proportion and by its functional character'.

Satya Prakash Srivastava[1] presenting his paper gave the following conclusions on adaptation of old and unfit museums buildings to modern museum techniques:

Conclusions: 5. The *director* of a museum- whatever his exact title may be- is the responsible head of the institution *before, during* and *after* its construction.

6. The director should therefore co-operate with the architect in an atmosphere of mutual confidence, but without any decrease or transfer thereby of his responsibility as the head of the institution.

[1] op.cit., Satya Prakash Srivatsava.

7. The task of the *architect* is to transpose into three dimensional space and functional conditions specified by and for the museum programme and to express them in architectural form.

8. It is therefore appropriate that the architect should :
a. Participate in an advisory capacity in the preparation of the museum programme and in the work of a team composed of all the necessary specialists, particularly in the fields of museography, conservation and psycho-sociology;
b. co-operate closely with the director of the museum during the entire period of planning the architectural design;
c. observe the operation of the museum after it has been opened to the public, in order to make improvements which may prove to be necessary and to evaluate the results.

10. It is therefore essential that the plans for new museums and any alterations made in old buildings in order to convert them into modern museums should regularly include such installations and equipment as will ensure conservation under good conditions, especially against such dangers as mentioned in the preceding paragraph.

12. As a museum exists *not only for the service of the public in general, but of various kinds of visitors,* it is necessary that the *architecture and arrangement of the museum should be adapted to the character of the visitors and to their real needs*; in order to establish these needs accurately *surveys should be carried out by specialists in psychology* and *sociology.*

There are *a very few instances available in the world where a Museum building to suit a particular type of collection may have been constructed* and *ideal conditions conforming to the nature of collection may have been kept in view.*

Pushp[1] expressing his opinion on 'Curator's role in Museum Design' stated as, 'the fact that most of our museums of note and longstanding tradition continue to be accommodated in improvised structures should not be allowed to justify neglect of a basic need a museum organisation, i.e., a suitable building facilitating modern display and effective service. This

[1] . P. N. Pushp, Curator's role in museum design, *Museum Architecture*, Museums Association of India, New Delhi, 1971, pp.32-33.

basic need has to be brought home to all the agencies responsible for planning new buildings for museums and galleries.

An architect, however brilliant or competent can hardly do justice to a design for a museum building unless he takes pains to study the problems peculiar to museum architecture

The most important consideration, therefore, is the functional aspect of the design vis-a-vis the collection intended to be displayed.

Even within the same museum the demand of all the galleries need not be of identical nature. This is particularly true of a multipurpose museum like that of Srinagar which has to ensure suitable display of paintings and sculpture, coin and manuscripts, crafts and textiles, natural history and social anthropology, prehistory and archaeology, as well as a children's gallery presenting some landmarks in the Indian civilisation and culture from the cave man to the cosmonaut.

A building for such a museum has to be designed primarily from the functional point of view but the museum building at the same time deserves to be designed as an object of display, in its own right, ensuring security of the art treasures in its custody'.

Satya Prakash[1] opined, 'certain principles of planning have to be kept in view, in the case of small museum buildings :

1. Building for a small museum is to be planned according to the material-contents of the museum, and also to the kind of work to be done, with due reference to the character of the community intended to be served by the museum;
2. Plan for the building should admit of future growth and development;
3. Interior arrangement is to be planned carefully before the exterior is considered;
4. The arrangement should be such as might enable the building to be administered economically and no convenience for arrangement is to be sacrificed for architectural effect;
5. Public rooms or galleries should be planned to allow supervision by the fewest possible attendants, and also for free circulation and proper routing of visitors;

[1] . op.cit., Dr. Satya Prakash, 1975, p.13.

6. Exhibition rooms should be as near the main entrance as is practicable, and the architectural treatment and decoration of exhibition rooms should be subordinated to the exhibits. There should be well-ventilated and well-grilled storage facilities in the building;
7. So far as possible, offices and working rooms should be accessible from the entrance, without passage through exhibition rooms;
8. The flight of stairs, in the case of a double-storeyed building, if the same cannot be avoided, should be straight and not circular;
9. The lecture-hall should have a separate entrance, so that its use may be independent of museum hours. A fire proof projection booth should be provided for this lecture-hall; the workshop, if provided, should not have access through exhibition rooms or galleries;
10. There should be provision for toilets;
11. There should be safe deposit vaults provided for the safe-keeping of valuable objects and the doors and windows of the building should be grilled;
12. There should be provision for conservation and photographic laboratories'.

According to Baxi[1] 'a categorical analysis of functions covered by the museum can be a basis for formulating a programme for a building in general. However, a policy of a particular museum as agreed to by the founders will give definite dimensions to the programme. Site and available budget are additional factors which affect the scope of a particular project.

Scientific programme

The major responsibility of drawing up the scientific programme in consultation with the controlling authorities should rest with a museologist, who may be one of the founders, or may be employed specifically for the purpose. He should draw up a specification of building requirements, taking into account the functions that a museum must perform, including the special activities, according to the requirements of the museum founders. Such a specification can be formulated only by a museologist, who knows from experience what a museum must and should do; it cannot be left to the architect, although it may be advisable from the outset to associate an architect and an exhibition designer with the museologist.

[1] . Smita J. Baxi and V.P. Dwivedi, *Modern Museums*, Abhinav Publications, New Delhi, 1973, p.30.

A scientific programme should include requirements in terms of spaces, their nature and character for carrying out each function and activity of the museum. The details of the museum's operational units and sub-units should be drawn up as a part of the programme. The architectural particulars of each space may be decided upon right at the beginning as well as the circulation of the public and staff. Provision for administration and operations should be considered at the planning stage. Administrative, operational quarters should include a director's office; work-rooms for scientific, technical and other personnel; a conservation laboratory, a photographic studio and store-rooms, as private areas, accessible only to the staff of the museum. Documentation rooms, and reserve-collections' stores could be considered as semi-private, as these have to be accessible to scholars and students. Meeting and conference rooms, reference library and study rooms should be considered as semi-public areas, while exhibition galleries, lecture rooms, activity rooms and entrance halls are public areas on the basis of this specification, the architect selected for designing the museum building prepares his plans.

Construction programme

The construction programme should be considered simultaneously with the scientific programme, since the nature and character of the programme, since the nature and character of the museum spaces depend upon the materials and methods of construction. The architect should specify these in accordance with the requirements of the director and his committee. The external and internal wall finishes, floor-finishes, for all the museum areas, as well as landscaping of the open courtyards, and areas surrounding the museum should be specified in the construction programme by the architect, in consultation with the museologist and the interior designer.

Ideally, the team of a museologist, an architect and an exhibition designer should be associated with the project from the first stage of museum programming up to the moment when the staff are installed on the premises, thus maintaining uniformity of design, which is essential requirement of a museum'.

Satyamurthi[1] stated, 'most of our older Indian museum buildings are architecturally unsuited for modern presentation of museum objects. It is

[1] . S.T. Satyamurti, Museums in Germany and the Netherlands-some observations, *Studies in Museology*, v.5, 1969, Department of Museology, Baroda, p.15.

therefore necessary to redesign them and adapt them structurally so as to suit modern requirements, thoroughly reconstituting them and introducing an entirely fresh scheme of interior decoration consisting of suitable false ceilings, exhibition panels of modern design, built-in cases, colour schemes, backgrounds, etc., so that even with the existing buildings it may be possible to give the galleries a new look and to secure that feeling of freedom and spaciousness so characteristic of western galleries. The introduction of mosaic flooring, provision of ample wall space, spray-painting of the walls with plastic emulsion paints of soft, neutral tints conforming to certain accepted colour schemes, the use of simple modern pedestals, display panels and frameless plate glass show cases and a careful selection of the objects to be exhibited will materially contribute towards a more effective and modern presentation of the exhibits in our galleries. And, if in addition, we could create sometimes a sense of variety and intimacy in our galleries by the occasional use of warm colour schemes, subdued lighting, or special incandescent spot-lighting to accentuate certain objects in semi-darkened rooms, and restrict the height of the ceiling and the size of passages in between the successive galleries, we may perhaps be able to approach to some extent the standards attained by foreign museums at least in so far as museum presentation is concerned. Above all, the visiting public in our museums should also come up to these standards set by visitors in foreign museums in their civic sense, cleanliness, discipline, sense of respect and regard for the exhibits and show-cases and in their integrity and honesty'.

Satyamurti[1] expressed his opinion as follows: 'Basic necessities in Museum administration :- If a museum has to be established and run satisfactorily on modern lines, the following have to be provided :-

(e) A place to work in- i.e., a suitable building'.

Satyamurti further commenting on '*Problems relating to Museum Buildings, amenities for the public, and factors contributing to the comfort of visitors:* the administrators of a modern museum should pay careful attention to the architectural design, plan and layout of the museum buildings and the provision of amenities to the visiting public. The existing buildings of most of the museums in India are architecturally unsuited to the modern museum display and hence the question of adapting a old buildings to the present needs poses a difficult problem to the museologist.

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[1] . S. T. Satyamurti, *Administrative problems in the Indian Museums*, Department of Museology, Baroda, 1963, pp.6 and 28-31.

In fact, in many large museums of the west such as the American Museum of Natural History, New York, there is a separate Architectural Department which draws up blue prints and builds small scale models of proposed new galleries which are carefully planned so as to conform to modern standards. In planning museum galleries, maximum provision should be made for wall space, eliminating windows as far as possible and introducing artificial illumination. Pillars should be avoided so as to secure that feeling of spaciousness which is so essential for the aesthetic appearance of the gallery. If windows are eliminated or reduced, ventilation becomes a problem especially in a hot climate like, ours. Exhaust fans in the walls near the ceiling should therefore be fitted up wherever possible, and where funds permit, air conditioning may be a necessity at least for the art galleries. Lighting also should be carefully controlled. The modern tendency is to replace it with suitable artificial lighting, but since the latter is more fatiguing to the eye, it is better to adopt a judicious and effective combination of both natural and artificial light.

In planning the museum building, due consideration should be given to the comforts of visitors. Changing the colour scheme from gallery to gallery helps in reducing Museum fatigue. Comfortable seats should be provided at convenient spots in the galleries for the comfort of visitors and water closets with modern sanitary fittings should be provided within easy reach of the visitors. Other conveniences such as lounge, cycle stand, parking space for cars and a cafeteria are also essential amenities in a modern museum.

If a museum is to function effectively, provision should therefore be made for the following in its architectural plan and the museum administrator should see that these are adequately provided for in any proposed expansion of the museum building :

(i) Administrative and Curatorial Offices.
(ii) Accommodation for research collection as distinct from the public galleries.
(iii) Rooms for study and examination of research collections.
(iv) Laboratory, including a good Chemical Laboratory, for restoration and conservation work .
(v) Photographic dark room, and work rooms for taxidermists, artists, modellers and preparators.
(vi) Lecture Hall, provided with audio-visual equipment.
(vii) Library accommodation.

(viii) Conveniences for the public such as cafetaria, lounge and lavatory.

From the very beginning it is necessary for the director and the trustees of a museum to have well thought out programme, clearly defining the museum's scope and field, and looking many years ahead although this programme will need modifications and revision from time to time in the light of changing conditions. It is desirable that the work of museum be adapted to local conditions and is in harmony with local occupations, interests and attitudes of public leaders'.

Baxi and Dwivedi[1] while giving their opinion on 'Planning a museum gallery' stated as, 'generally speaking a few exhibits in a museum encourage the viewer to think for himself and still fewer give him the material to draw his own conclusions or to stimulate him to evaluate his experience. The probable reasons may be the poor way of presentation, inadequate space to isolate objects, defective building, ineffective layout and poor lighting. All these if combined make museum a most undesirable place.

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

The gallery layout, the lighting, the showcases, the sequence and method of presentation must be effective . It can be achieved through planning only. It cannot just be left to a chance.

A plan of gallery must underline solution of a good layout and must satisfy aestetic, physiological and psychological requirements.

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[1] . op.cit., Smita J. Baxi and V.P. Dwivedi, pp.59-61.

Baxi[1] while introducing topic on 'climate and museum architecture in tropics' stated, 'every where in the world, right from ancient times, climate has been a dominating influence on architecture. The designing and orientation of buildings with respect to climate is an old art. For ages man has learnt by trail and error the influence of weather on his dwelling designs.

Every building has its own requirements based on its location, orientation and climatic zone. But the requirements for most of the buildings are mainly for human comfort. Museum buildings also have their own requirements, but these differ in many ways from other buildings. Most of the other kinds of buildings are mainly for human occupation, but museums are occupied by valuable, irreplaceable, rare objects and specimens of art, culture and science, besides the human beings. Naturally the museum should be comfortable for human occupation, and at the same time it should provide a healthy climate for its precious collections.

Every museum has a responsibility to make certain that the objects in its care will survive and will remain intact in the future. The early concept of a museum for preserving objects emphasizes the fact that museums make sure that the objects are conserved, but only by being in a museum does not necessarily ensure that the objects remain in good condition. On the contrary, the conditions in a museum, unless care is taken, do not contribute to the preservation of objects, because in the museum, objects are needed not only for study and research but also for exhibition in the galleries and thereby they have to be lighted. It has now been established as a fact that the effect of the light is not healthy for the objects, unless preservatory measures are taken. Actually, the effect of light is one of the main causes of deterioration of many kinds of objects, while the action of the atmosphere is the other factor which causes deterioration.

It is true that not only by constructing excellent buildings, with all the needed climatic protection, will the problem of preservation end, but still the creation of a favourable climate inside the building, by controlling the external and internal detrimental climatic factors, makes the task of conservation a great deal easier and more economical.

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[1] . Smita J. Baxi, Climate and Museum Architecture in the Tropics, *Conservation in the tropics*, International Centre for Conservation, Rome, 1972, pp.69-70.

The design of a building for a hot or tropical climate is a different problem in many ways from that of designing one for a temperate or cool climate. One difference is especially fundamental. In warm or hot climates the main design problem is to keep the sun out of the building as much as possible, whilst at the same time ensuring that any heat produced within the building itself (like the heat produced by high-powered spot lamps, or gas-burners in the laboratory) is speedily removed.

Climatic types

In the first instance it would be necessary to examine the climate in the tropics.

The tropical climates are mainly of two types- hot and dry and hot and humid, though these two types of climates also vary within the tropical belt. Some areas have constant rainfall all the year round; some have hot and dry winters but hot and wet summers, while some have semi-arid climate, with warm dry winters and occasional summer rain. The desert areas have a great have a great range of temperatures and little rain. There are many variations of these broad categories due to proximity of coast. The variations of climate depend on the altitude, and so, for designing a museum, architects will need data concerning the climate, the rainfall, the direction of breezes, the sun altitude, as well as information regarding cyclones, earthquake zones, etc.

Hot-dry zone

This climate zone is characterised by high air temperature (often exceeding body temperature), dry air and dry ground. Little or no cloud or vapour to ward off the rays of sun results in high intensity of direct solar radiation heat and dries the air still further. Ground dryness affects plant life and dry ground reflects solar radiation. So the building need protection from : (i) Intense direct solar radiation; and (ii) Intense reflective solar radiation'.

According to Bhoumik [1] 'in India, the external design of museum buildings must be plain. The external mouldings, carvings, perforated screens should be avoided since these structures accumulate dust and gather moss which create problems for the museum. It is a mistake to think that the

[1] . op.cit., S. K. Bhoumik, 1972, p.75.

Trophies on display - Indian Museum, Calcutta

State Museum, Bharatpur, Zoological section reminiscent of hunting trophy rooms ; specimens are neither systematically selected nor educationally exhibited. This type of natural history exhibition is still frequently found, but many of them are now being modernized. (Courtesy-*Museum*, v.XVIII, n.4, Unesco)

ancient Indian art and architecture should be reflected in our museum buildings. This tendency has to be discouraged'.

Expressing his opinion on design of a museum building, Gilman[1] stated, 'as a theatre is designed for spectators, or a throng seated to see: an auditorium for auditors, or a throng seated to hear: a bridge for crossers, or throngs passing and repassing over an obstacle : so a museum is designed for visitors, that is, for throngs moving away from any one of certain spaces to any other, to see the contents. Apart from well-designed light openings, spaces freely communicating are the prime requisite in a museum plan'.

Describing about 'Situation of Museum buildings' Smita Baxi[2] observed, 'very often the buildings utilised by museums, for housing their collections were not designed for use of museums. Most of museums made use of public and residential buildings which were available and then just grew up without any relation to the functions of the museum.

Most of the existing buildings do not have sufficient space for carrying out the functions and activities of museum. There is no space for proper storage or reserve collections as all the available space is utilised for galleries. There is no room for library books and reference materials like slides, photographs and films. The visiting scholars and research workers have to carry out their work in the galleries as there is no separate room available. For lectures, demonstrations and even conferences, no facilities are available in most of the existing buildings. The visitors, art objects, stationery and other goods enter the museum through the same entrance in many buildings and create confusion. There is no place for staff members to work and no room for workshops. The galleries in which the collections are displayed are not provided sufficient natural or artificial lighting. They are also unsuitable for effective presentation of the collections.

It is obvious that most of the museum buildings did not receive any help of the qualified architect in the planning of the buildings or the installation of galleries.

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[1] . Benjamin Ives Gilman, *Museum ideals of purpose and method*, Harvard University Press, Cambridge,1923, pp.142-144.

[2] . Smita J. Baxi, Conference of Museum Architecture - Preamble, *Museum Architecture*, Museums Association of India, 1971, New Delhi, p.2.

Museums should have a good floor plan for efficient and effective presentation of the collections to accommodate storage, functional and educational areas.

It is necessary for museum authorities to work in close collaboration with the architects right from the beginning when a decision is taken to build a new building for a museum, or even for reconstruction of old buildings. It is the job of an architect to scrutinise space requirements and determine planning requirements to review mechanical and electrical services required and to select building materials and establish methods of construction'.

The author further feels that the building committee should also keep in mind the demands of the museums of today, circulation problems of the objects and the people and recent technological developments and their utility in the construction.

Commenting on this matter, Bhalla[1] opined, 'The assumptions on which the museums of the nineteenth century were based have undergone radical transformation during the last forty years. The economic, social and technological changes which have occurred and their effect on education, leisure and mobility have shown their impact on the reforms of the museums'.

Expressing her opinion on subject specific requirements of a museum building Grace Morley[2] observed, 'Natural History Museums-if they plan for well organised habitat groups, reduced scale dioramas, charts, even some taxonomic displays, to make the essential sentiments on their subjects from an educational point of view, need ample exhibition space. Their exhibits are mostly dependent on built-in cases, to be regarded as permanent fixtures. But if they are serious research centres, they require likewise large areas for reference collection of various kinds, whether in bottles for snakes and fish, in drawers for small animals and plants etc. This space must be arranged systematically to be instantly accessible for study and reference. Special work shops are needed for taxidermy, moulding of foliage and the like. The architect must be told in detail about these requirements so that he can plan accordingly.

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[1] . op.cit., J.R. Bhalla, 1971, p.10.

[2] . op.cit., Dr. Grace Morley, 1971, pp.22-25.

The museum devoted to the applied sciences, industry and technology emphasizes its exhibition areas. These areas must be large, therefore reference, storage is likely to be nominal for the museum itself. However, it may need space for educational activities, such as demonstration of apparatus, films, slides and other teaching aids. Receiving and shipping facilities must likewise be provided. Since this type of museum is engaged to a considerable extent in manufacturing its exhibits, both for exhibition as well as extension services of various types, its requirements for work space must be correspondingly large in proportion to that activity.

Museums of archeology, arts, ethnology, natural history must have provision for a conservation laboratory or workshop, depending on the size of the museum and the kind of conservation needing to be carried out. Because of the visual demands of much of this type of work, studio lighting that is north light, often preferred and may dictate the location of the laboratory or workroom. The architect must study the problem in relation to his other spaces.

In general, circulation both in internal service areas and in the public areas of the museum can be well planned by the architect if he understands thoroughly the way in which the museum is expected to operate, the kind of activities, behind the scenes and for the public, that it will probably carry on. Convenience of access from staff offices to galleries, to work shops, to library is another aspect of space organization to consider. Likewise, the communication between auditorium and other educational and cultural facilities, galleries, offices must be considered for effective use. The order of galleries and the way in which they open into one another or to some central space or hall and other facilities used by the public must be carefully studies so that circulation by visitors is convenient for them but also is practical from the staff point of view of general security and supervision at all times. When galleries must be closed for installation for special activities being arranged in some areas and the like, there should be an alternate provision without interference to the circulation. Similarly, for educational and cultural programmes offered to the public, relation of meeting and classrooms, of auditorium and other facilities, and the relation of them all to the galleries should be studied. Restaurants or tea room facilities, lounges, smoking rooms, lavatories and toilet rooms are likewise to be arranged conveniently for those attending special events or following educational programmes as well as for the gallery visitors.

Describing the special requirements for native conditions . Moti Chandra[1] stated, 'the climatic conditions in India are so different to those of foreign countries that the museums designed for Europe or America are utterly unsuitable for this country. The problem of a museum design in Europe is to get as much light as possible, while the chief problem of a museum in this country is how best to avoid excessive light, heat and dust. The problem of tropical rains and how to safeguard the museum against it has also to engage his attention. No doubt, he has to learn many features of museum designing from Europe and America, but those he should use with reference to local conditions. For instance, for a museum building in Bombay with more or less constant temperature throughout the year and the annual rainfall averaging eighty inches or above, a cement concrete building with proper lighting should be most suitable. But the climatic conditions in North India are quite different; there the chief problem of a museum architect would be as how to avoid heat and dust'.

Regarding planning, Moti Chandra suggested, 'before the actual construction of the building is taken into hand the museum authorities must *define the scope of their museum*, and plan the galleries in accordance with that strictly defined scope. *The general practice of constructing a museum building first and then determining its scope later should not be countenanced.* It is, therefore, necessary that the galleries should be constructed bearing in mind the requirements of various sections. Thus *a Natural History section would require a dark spacious gallery with alcoves in the wall for future dioramic cases, while a gallery of Indian painting would require plenty of wall space, in an indirectly lit gallery'*

In his article on Anand Coomarswamy, Shiv Visvanathan[2] wrote, 'the dullness of part of the PWD syndrome where architecture was reduced to engineering and the beauty to overt ornamentation. Coomarswamy's work was a plea for aesthetics within a socialist imagination. He was worried about an industrial future whose progress he saw as a movement from architecture without drains to drainage without architecture. Sadly, the aesthetic socialism of Coomaraswamy never became a part of the active political imagination'.

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[1] . op.cit.., Moti Chandra, 1952, pp.43-44.

[2] . Shiv Visvanathan, The Philosopher of Obsolescence, *The Times of India*, 10-09-1998, Ahmedabad.

FIG. 9a.—If pictures are presented too near each other it is hardly possible to view a single painting without parts of neighbouring pictures intruding into the spectator's orbit. At the same time, one or the other of the presented pictures by its size or position in relation to others might acquire dominance which may, or may not, be warranted on artistic grounds. One large picture may appear as the centre piece of a cluster of pictures of smaller size, and together they may produce a self-contained group of ornamental appeal not necessarily in keeping with the values of each picture if considered separately.

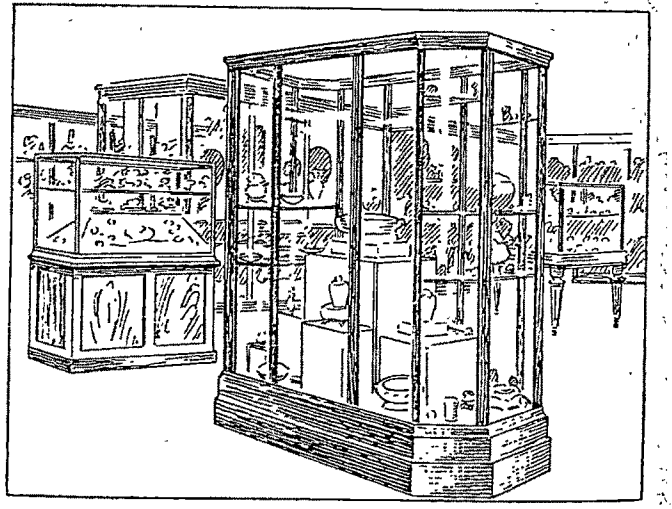


FIG. 9b.—In an exhibition hall comparable to the one shown above it is difficult for the visitor to find a place from which to view a single exhibit, or the contents of a single case, to the exclusion of a multitude of impressions derived from other cases and objects.

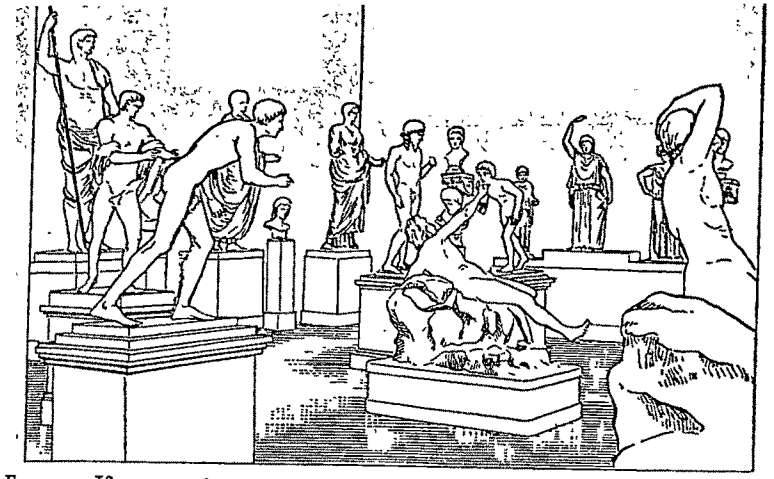


FIG. 9c.—If compared with many other exhibition halls the room shown above contains a limited number of exhibits, but still too many for a spectator to focus his attention on a single object. The student of classical archæology may find the room too crowded with figures, and the visitor lacking special knowledge of ancient culture and art, may complain of the absence of a principle which would unite single figures to groups or which would help the uninitiated to classify and to evaluate the exhibits.

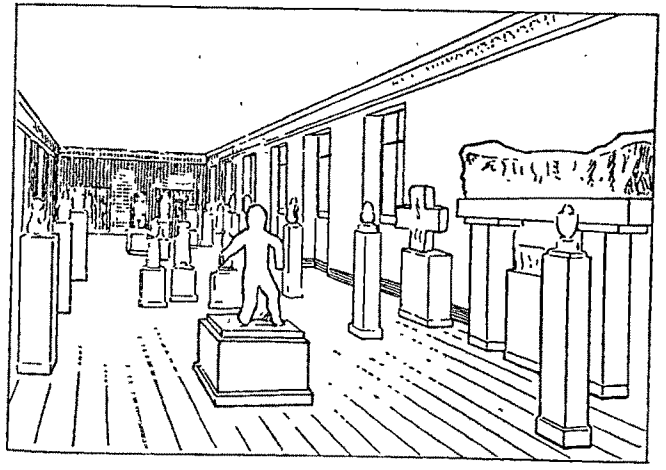
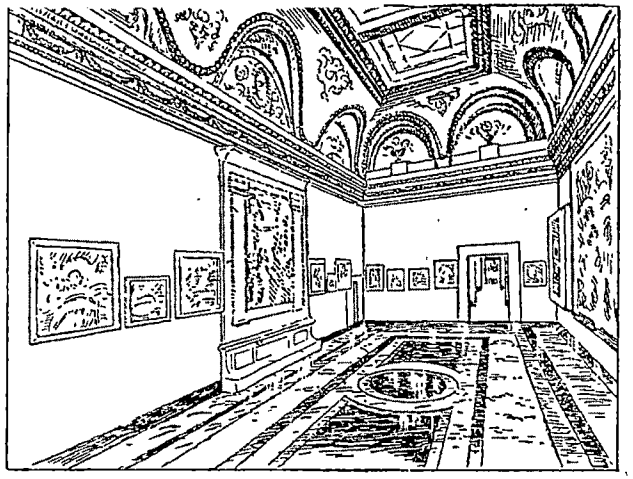
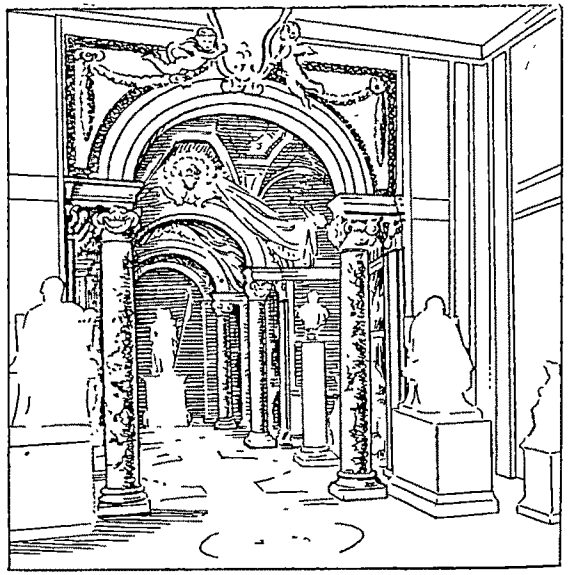
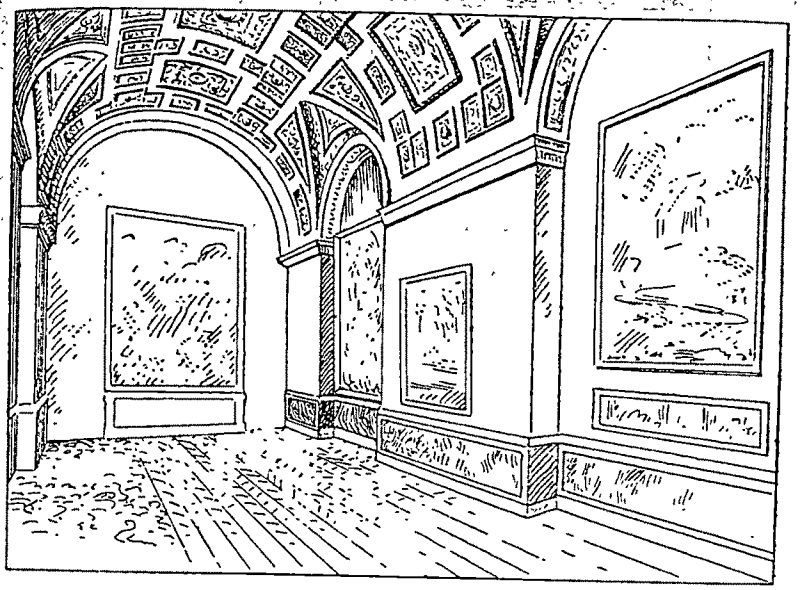


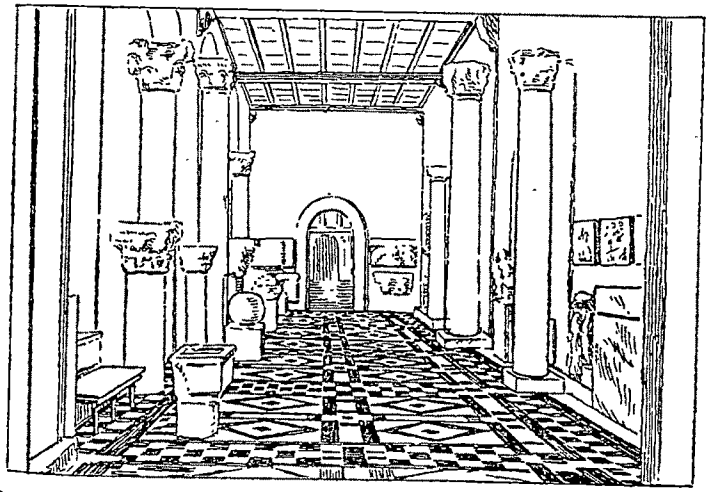
FIG. 9d.—An austere atmosphere in an exhibition hall may be preferable to an ornate one. The first to benefit from the simplicity of the setting is likely to be the student of the period or area illustrated by the exhibits, but would he not benefit even more if the specimens were presented in a series of small cubicles instead of in one large hall in which the visitor's eye is almost forcibly drawn into a deep perspective framing a great number of objects?





FIGS. 9e AND 9f.—Two examples of museum halls where the exhibits are overshadowed by a wealth of decoration on walls, ceilings and floors. In the above sketches the exhibits are shown in their original position but with less emphasis of tone than the background so as to give even greater predominance to the latter.

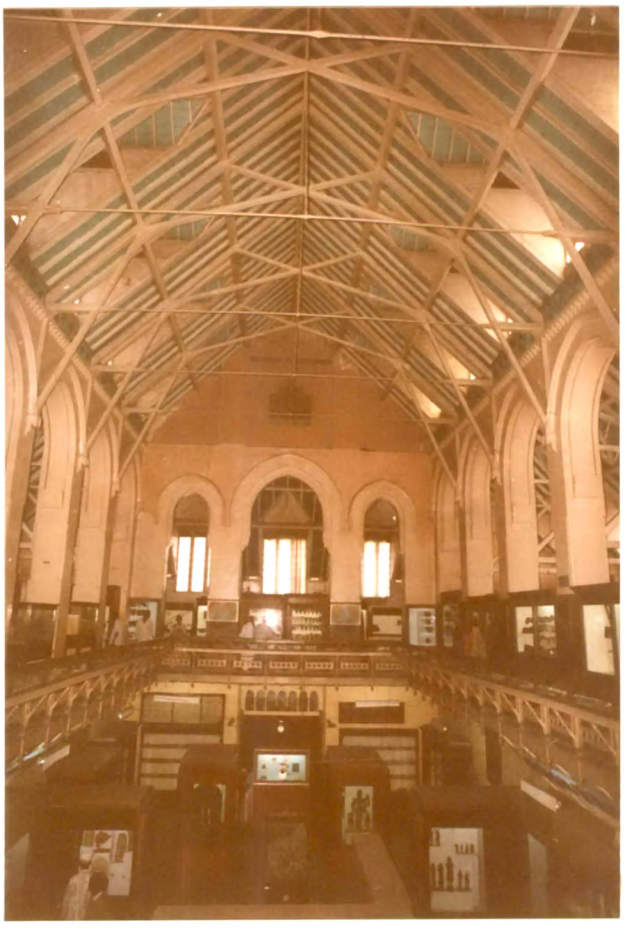




FIGS. 9g AND 9h.—Two further examples of ceiling and floor dominating in exhibition halls at the expense of the exhibits proper.

Arches is another feature with old monumental buildings.

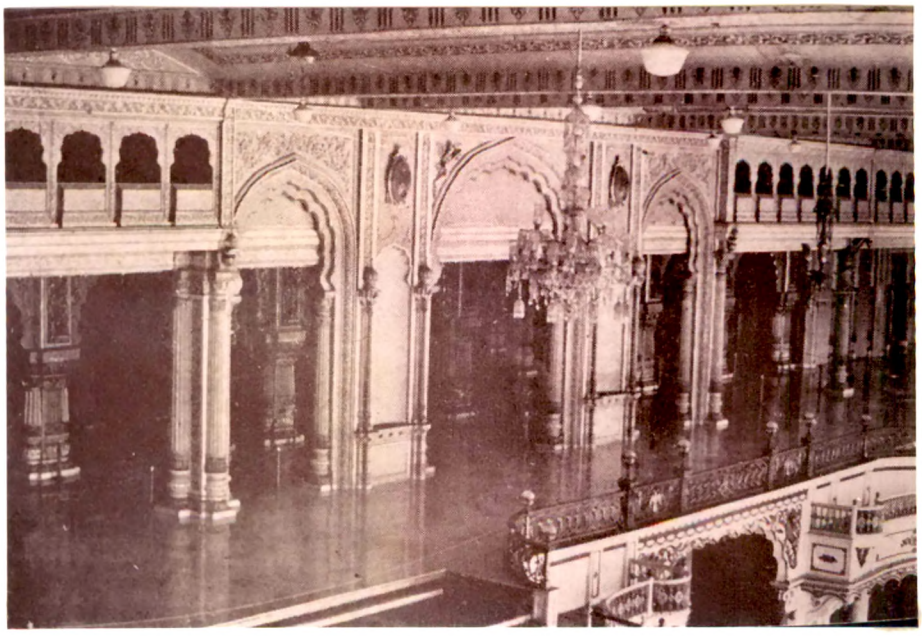
Vaulted and lofty ceiling is a feature of monumental buildings. A reasonably well maintained, clean and neat ceiling of a museum building.

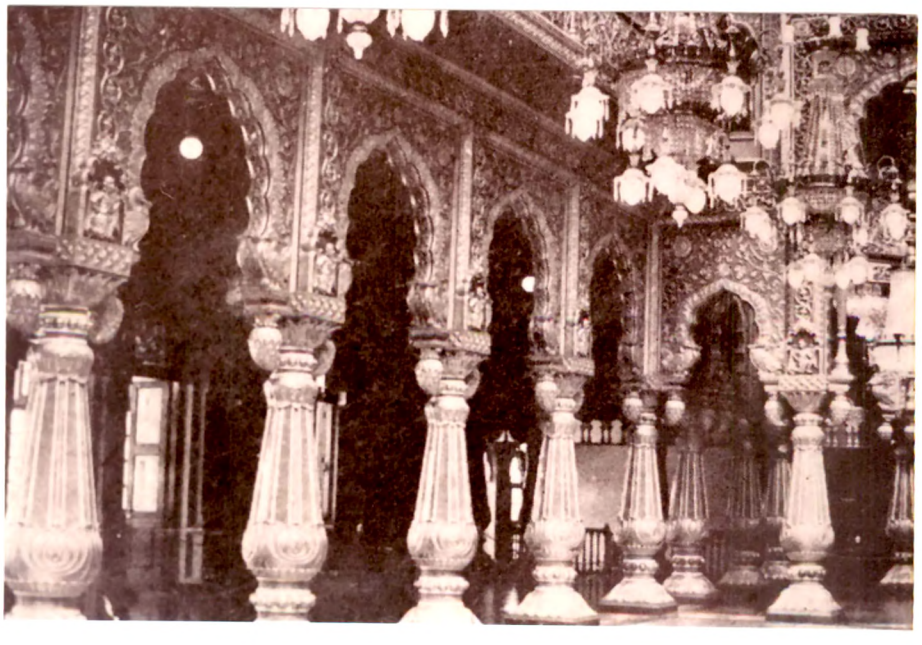


The Mysore Palace- Ceremonial Public Darbar Hall.

The Mysore Palace collonade- The Main Durbar Hall.

The Mysore Palace- Amba Vilas Private Durbar Hall.
(Courtesy- *Museums and Museology*, Agam Kala Prakasan)





There is a general resentment and disappointment by the museum personnel over the quality and design offered by the PWD or R&B that usually undertakes any construction assignments of government museums. While this practice of PWD's involvement with building assignments of government museums is to continue in future; an initiative and persuation on the part of museums to explain their specific requirements and seeking their active involvement and continuous participation all along the tenure of any building project or assignment would help to improve the situaltion.

Design and Decoration:

According to Coleman[1], 'criticism of the old, which took a most unfavourable view of things during the twenties and early thirties, can still be useful since it throws light also on some problems of today.

What was most wrong with the older museums, by common consent, could be traced to the preoccupation of designers with certain stereotypes. These structures had long flights of approaching steps, porticos with colossal orders, colonnaded facades, perhaps a dined rotunda; all constructed in heavy masonry and with thick walls. There was also, as we have seen, the family of palace-like buildings, usually for art museums, in adaptation of Renaissance and Post-Renaissance examples. These had bilaterally balanced plans and conventional, little varied, room arrangements, sometimes with a grand entrance hall and staircase, cloistered and double cloistered courts or colonnade halls, and period ornamentation.

The most obvious trouble with this entire programme has been that the stylistic paraphernalia has seriously hampered museum functioning. Exterior colonnades, for instance, dictate arbitrary fenestration and cut off light from the windows. Interior columns, stand in the way of needed practical arrangements and thwart rearrangements; and they interfere with installing of exhibits, to say nothing of their competition with exhibits for attention and their clash with most exhibits in spirit.

Building in which the main axial block is of monumental proportions, perhaps with a great vaulted chamber or domed rotunda give large scale demonstrations of lost opportunity. Passing over questions of cost, which have to do with enormous sums, such architectural displays are widely

[1] . op. cit., Laurence Vail Coleman, p.63.

Window giving a view of the Rotunda, Statts Gallery, Stuttgart.

Another view of the rotunda
(courtesy - *New Museum Buildings in Federal Republic of Germany,* Academy Editions)

condemned as being themselves unrewarding and as standing in the way of what should be among the museum's most telling features.

Large scale, of itself and apart from architectural accompaniments of the past, may or may not be awkward; but great rooms of traditional character are difficult to museum use. Directors have shown ingenuity in making halls of honor serve as special exhibition galleries, and places of assembly; but such opportunism has had hard going in the face of conventional forms.

Some Classical buildings, to be sure, did not suffer as much as other because their designers treated style as mere superficial trimming. Thus it has been possible to put some well planned interiors into formal old containers. However, by so doing museums have had to subscribe to the serious error that the architect's opportunity as a designer is solely or mainly on the outside of the building, thus ignoring the fact that integrity of exterior and interior is essential to sound design.

A forceful criticism, from the museum point of view, has been brought by curators who objects to stylistic interiors on aesthetic grounds. It has long been an accepted tenet of museum exhibition that a manufactured period setting is inappropriate for an authentic period display, even though the two are in keeping stylistically.

Buildings designed in the older ways be lived in somehow by museums, but they cannot be made to work very well- certainly not for the life of the structure.

Monumentality, for long under fire in discussion of style, has been the subject of more or less confusion that comes from defining it in several different ways. The term is taken sometimes to denote large scale, sometimes to refer to the use of style or its symbolic standing, and sometimes only to mean resemblance to ancient buildings that have survived as monuments; perhaps the term has all these meanings together, or perhaps one and then another at the pleasure of the speaker.

Three attributes are given to 'modern style' by Henry Russel Hitchcok and Philip Johnson authors of the book 'The International style' , published by W.E. Norton and Co., New York in 1932. First, emphasis on volume, space enclosed by planes, rather than mass and solidity; second, regularity through orderly structure made interesting, rather than balance as by axial symmetry; and third dependence on proportions and the nature of materials

rather than an applied ornamentation. Interpreting these conclusions, in its exhibition book,, 'Built in U.S.A. 1932-1944, the Museum of Modern Art suggests a fourth attribute implicit in the others, namely, flexibility of plan.

A symposium held at the Museum of Modern Art in late 40's on "What is happening to Modern Architecture" published in the Museum's bulletin, that the focus of interest was upon warmth and feeling related to humanism, the subjective side of designing as contrasted to functional considerations.

So, reviewing museums of recent years in the light of these observations, one finds on the whole a transactional state of things. Most buildings show a mixture of old and new influences so that their scores on different points would vary considerably. And there are some modern-looking buildings that in fact are not modern at all because of their disposed bulk of masonry and applied decoration which is none the less false by reason of being modernistic.'

According to Molajoli[1], 'the aim being to allow for that sense of proportion which should always be in evidence when a museum is planned, to ensure that the visitor will find there the friendly, welcoming atmosphere, the attractive and convenient features that he enjoys in his own house.

There are certain museographical considerations which must have a decisive influence on the structure of the buildings, for instance, on the arrangement of the rooms or the types of roof chosen, and which are therefore of technical importance in the construction.

Consequently, *the successful planning of museum entails the well-considered choice and unerring application of these deciding principles,*- whose chief theoretical and practical aspects I shall now briefly describe'.

Expressing his opinion on 'planning' . Satya Prakash[2] stated, 'since the collections in the small museum are held in trust for the benefit of the present and the future citizens, the building to house the collections deserves to be selected or planned carefully, so that the objects in it can be taken care of properly and presented in the galleries with a view to

[1] . op.cit., Bruno Molajoli, pp. 146-147.

[2] . op.cit., Dr. Satya Prakash, 1975, pp.11-12.

benefiting the visitors. When the buildings are vacant in the locality and one of them to be taken on rent, selection is to be made keeping in view the nature of the collections and also the needs of the community for which the museum is proposed to be opened. The small museum may be provided with a house, either by the government or by a local authority, a university, a college or a society. very few museums have a choice of their own in selecting their first home.

Sometimes a few vacant rooms in a big college, in a big university, or in a big building, used by some registered society, for some library or club, are offered to the museum. At times even an obsolete and vacant building is leased to these museum for a nominal rent.

In all such cases, while considering the feasibility of using the above or any kind of space, available or offered for museum purposes, the following important points need to be kept in view:
a) The museum, if lodged in a building other than its own, by virtue of its situation, should be accessible to both young and old people, and also children, in terms of traffic patterns and bus routes. It should be preferably a single-storied one;
b) The building proposed to be used should be well secured and it should not virtually be a glass-house and it should have with little expense, security against theft and fire. A fire and damp-proof building is to be preferred to those susceptible to fire and dampness;
c) The building should not involve much cost for repairs and alterations, either in it or in its premises, in order to make it suitable for the use as a museum, however small it is;
d) It should have enough floor space to be used for exhibits;
e) It should have in it space for storage also, since even in a small museum

It is impossible to put on view all the materials in the collection, although in many museums- especially in the small ones- it is thought by the museum-in-charge that all of the materials in the collections should be exhibited. But this notion is based on ignorance of the principles of museology rather than on the knowledge museology. Such a misguided view results in congestion in galleries or rooms and also in the waste of floor space. In a small museum as much floor space should be given to the storing of exhibits in the reserve as is used for exhibits in a galleries or rooms;
f) It should have in it a room for the museum-in-charge to occupy and an adjoining room for museum records and also for the office people;

g) It should have rooms- one for the museum library, one for the conservation laboratory and one big room for the photographer's studio, records and the dark room;
h) It should have some space, where group meetings or lectures may be held. If such a space is not readily available, it may be possible to improvise it with the aid of folding chairs, either in some room or in some exhibition gallery or photographic studio, where unused floor space is available for the purpose and the exhibits and other materials can be stored in wall cases.

Landscape:

The portion of the land or area that on can take at a look or glance is considered as the landscape. The surroundings of the museum building will have an impact on visitors' psychology and play a vital role on their visit to the museum. Needless to specify this should be appealing, aesthetically pleasant and encourage the visitors to enter the museum. All museums that function on modern principles of the subject museology strive to achieve this. As quoted by Indra Kumar Sharma[1], the former director of the Salar Jung Museum, Hyderabad; the museum has offered the corporation of the city to facelift the open space facing the museum.

According to a report in daily *Indian Express*[1] ' Sharma suggested that the frontage of the museum could be extended by a few hundred metres for developing fountains and landscaping, and for the purpose, a muddy portion of the river Musi in front of the museum could be provided with a concrete cover.

He said the covered top area of the river could be used for laying lawns or flower beds which would prove to be an ideal resting place for the weary tourists who come to see the museum.

He said the authorities should also check the encroachments like bunks and pavement hawkers abetting the museum walls.

Sarma said the museum was willing to develop the frontage provided the civic authorities handed over the land to it'.

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[1] . Salar Jung Museum to be expanded: *Indian Express*, 31-10-93, Hyderabad.

Incense burner stand located in the compound of Prince of Wales Museum, Mumbai.

Garden sculpture in the compound of Prince of Wales Museum.
-Garden sculptures need periodic maintenance of cleaning and/or waxing depending upon the medium. Surroundings of them have to be kept clean and manicured .

Sculptures have symbolic value and connote a distinct meaning depending upon their location and purpose.

Garden sculpture in the compound of Saputara Museum's previous site.

'SAILOR'S ARM: Seven-year-old Aline eats an apple while sitting in the shadow of the 5.7 meter-long wooden sculpture 'Sailor's Arm' at the entrance of the maritime museum in Bremenrhaven, northern Germany on Monday. The oak sculpture by artist Stephan Balkenhol was earlier installed as a symbol for the world of shipping.

These are statues of famous national leaders located at a garden, being invaded by children. Wherever garden sculptures are installed the behaviour of visitors of various age groups has to be taken into consideration and proper arrangements are to be made accordingly.

Sculptures fascinate people because several reasons. It may be because of their three dimensional form, artistic beauty, and at times the enormity of size. Generally relevant exhibits to a museum theme or the subject displayed within, are shown in the compound. Thus, National Museum of Natural History, Crafts Museum and Birla Industrial and Technological Museum and several art and multidisciplinary museums in the country show one or a few exhibits displayed outdoors in the compound of the museum. This practice not only helps to enhance the landscape but also hints at the collection displayed inside the museum. Though there is no norm regarding the number and size of the compound/garden sculptures; moderation is observed as a guiding principle. Though it is unusual to come across, gigantic sculptures, there should be no objection to it, if they are in keeping with the museum theme. However, the picture shown here is a garden sculpture at a beach, but is shows the kind of response it gets from the visitors.

Museums strive to have impressive surroundings that enhance the looks of the building/s. To that effect, many leading museums grow beautiful gardens surrounding their buildings. For example, Victoria Memorial Hall has beautiful garden surrounding its building. In fact, Estimates Committee of the Parliament on Central Museums [1] in its report has raised questions 'on the spending on the maintenance of garden'. As per its report under Recommendation (Serial Number: 37) Para Number: 54 'they are more unhappy to note that nothing has been provided for research work and more amount is spent for the maintenance of the garden than the museum proper.'

The Prince of Wales Museum[2] is a case in point with an impressive garden in the forefront. In fact, sale of flowers from its garden is reported as one of the sources of revenue of this museum during earlier times.; Though this practice is no more in existence now. The Museum and Picture Gallery, Baroda is located in a public garden and thus has a picturesque location surrounding it. The Bharat Bhavan, Bhopal situated near a lake is on a terraced land. But, the way the uneven ground was utilized in its designing enhances its structural beauty. The National Gallery of Modern Art has an impressive lawn. The Nehru Memorial Museum has a sprawling garden surrounding it.

According to Coleman[3], 'some devices of landscaping are like intimate parts of the building. A building may be set behind a lawn for various benefits. Plantings, near a building and in open courts, may be both pleasing and useful. Greenery should be simple, and not too expensive to keep up properly. Plants may well be selected for their interest in winter as well be in summer. Trees, which are much faster cut than grown. Outdoor spaces are sometimes developed in practical ways. A fairly common use of such space among art museums is for showing sculpture, whether fixed pieces or objects in a temporary show. Science and history museums are also likely to possess things of interest that are appropriate for installing in the open. Protection against vandalism may have to be part of the planning for such installations'.

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[1] . Estimates Committee Sixty-Sixth Report, Ministry of Education, Lok Sabha Secretariat, New Delhi, 1968-69, pp.28-29.

[2] . Notes collected by the author from the old administrative files of the ministerial office of the Prince of Wales Museum, Mumbai on 27-4-1990.

[3] . op. cit., Laurence Vail Coleman, p.50.

According to Molajoli[1], 'the beauty of a museum is considerably enhanced if it is surrounded by a garden which, if the local climate is propitious, can be used to advantage for the display of certain types of exhibit, such as ancient or modern sculpture, archaeological, or architectural fragments, etc'.

According to Molajoli[2] 'a museum must be planned not only in relation to its *purpose and to the quality and type of its exhibits, but also with regard to certain economic and social considerations*. For instance, if it is to be the only institution suitable in the town for a number of cultural purposes it may be desirable to take account in the initial calculations of the financial resources on which it will be able to rely, the nature of the *local population*, the trend of *development of that population* as revealed by statistics, and the *proportion of the population* which is interested in each of the museum's activities'.

Museum Building As An Aesthetic Object:

Even the museum building itself becomes an object of appreciation because architecture in itself is a form of art. As mentioned by Markham and Hargreaves, the Jaipur Museum and the Victoria Memorial Hall are examples of beautiful museum buildings. Similarly, the Prince of Wales Museum now has acquired the status of a monument by the local Heritage Trust. Even the Museum and Picture Gallery is another important and beautiful building in architectural point of view. This aspect will also have an impact on visitors psychology. The museum building should be a simple and not highly ornamented or decorated structure that distinctly stands apart as a cultural place and at the same time should be in harmony with the surrounding buildings. The National Museum building fulfills these requirements to quite some extent. Harmony with the surrounding buildings could be achieved by museum edifice by following the similar architectural pattern which is in vogue in the vicinity and by using the local construction material. It is a common practice at most of the places that the construction material invariably used to be formed of the locally available cheap and durable material. The general observation would reveal that red sand stone is the common raw material used for prominent public buildings, modern monuments and other government constructions

[1] . op.cit., Bruno Molajoli, pp. 146-147.

[2] . ibid., p. 148.

at New Delhi, to keep in tune with the famous monument, Red Fort of the city.

Sarkar[1] in his book,stated the following about Victoria Memorial Hall, 'It was a long-cherished dream of Lord Curzon and received his constatnt attention much after his return from India. Curzon himself had chronicled its history in his *British Government of India.* Its foundation stone was laid by King George V, then Prince of Wales, in January 1906. After a lapse of sixteen years the Memorial was formally opened. At that the building was not even complete in all its details, Ronaldshay wrote : "Yet few who were present at the stately opening ceremony in 1921 would deny that the goal which Lord Curzon set before himself 20 years before had been reched. It is indeed the finest structure that has been raised since the days of the Moghuls, and most splendid monuments of British Rule".

Commenting about Victoria Memorial Hall, Bhalla[2] noted, 'one has to admire the beauty of this building specially when illuminated during night'. He further stated, 'among the modern buildings, Government Museum and Art Gallery at Chandigarh is famous for its structure and function.

All the newly built science and technology museums of the National Council of Science Museums have impressive and unique buildings.

Art in the museum must exist as part of its environment. The architectural anatomy of a museum will be strongly influenced by two aspects of its functions. The general rule assigned to the museum and the relation between the object and the spectator. The first will affect the relative disposition of spaces, the second their nature'.

Commenting on the building features of some museums in India, starting with the Museum and Art Gallery, Chandigarh Morley [3] noted, 'the quality of building's architecture is fine. It strikes a monumental sculpture in which the form and material employed have been carefully conceived in an effective setting to achieve an aesthetic effect.

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[1] . H. Sarkar, *Museums, monuments and protection of antiquities,* Sandeep Prakashan, Delhi, 1981, pp. 38-39.
[2] . op cit., J. R Bhalla, p.10.
[3] . op.cit., Dr. Grace Morley, 1971, pp.17-20.

The monumental museum buildings so frequent in the nineteenth and the first half of the twentieth centuries, conforming to a classical European Style of architecture (example: Indian Museum, Calcutta ; Prince of Wales Museum; echoed in India corresponding prevalence of fashionable architectural styles applied to museum buildings elsewhere in the world).

Museums were then thought of as monuments, worthy of treasures of science and art that they housed and the architecture of their buildings, from the outside and often in some parts of their interior as well, were conceived by their architects as noble and majestic and were accepted respectfully by those who operate them, despite their shortcomings as practical and functional museum quarters. They reflect a passive aspect of museum. For such museums, exhibition halls were the principle requisite and they tended to be vast and like the building itself based on a monumental conception, drawn from a cathedral or a palace perhaps. Storage, space for staff and research; constituting the principle behind-the-scenes - their needs were not usually very generous.

Obviously one desires a building architecturally distinguished. What does that mean in thinking of today ? It can be summed up perhaps by saying that the museum professional concerned should demand an honest building, its size and form dictated by the use to which it is to be put museologically speaking, with sensitively established proportions, conscientious use of its materials, and without decoration for the sake of decoration. In other words, structural steel and cement can, properly design be as worthy a realisation of the needs of museum as red and buff sandstone and marble. To put it another way, and in familiar museum terms: the building's shell should be like the paraphernalia of installation, only a setting for exhibitions and activities of the museum and it is better that the building avoids competing for attention with what it contains. In frank terms this is a plea for simplicity, forthrightness and economy for museum buildings. The contemporary museum building presents a greater challenge to architects and assures them greater applause, if they are able to solve the individual museum problem well and with distinction in their own art'

Case Studies:

Crafts Museum [1]

Smita Baxi in her article on '*Programming and planning of the Crafts Museum, New Delhi*' gives the following account.

The programming, planning and construction of the Crafts Museum have gone through the phases enumerated above. During the different phases, quite a few changes had to be incorporated. To gain insight into the problem it is necessary to know some relevant details about the project.

The museum came into existence when the All India Handicrafts Board, at its very beginning, decided to collect and preserve choice specimens of handicrafts from all over India as source material for study, research, documentation, reproduction and development, and to set up a Crafts Museum at New Delhi, where they could be brought together under one roof. In addition, the museum was entrusted with the task of giving information about the history of various crafts and production techniques.

While planning a new buildings for the museum, a programme was drawn up to incorporate all the functions of a conventional museum, at present carried out on a limited scale owing to shortage of space in rented premises. It was estimated that an area of approximately 10,000 square meters would be needed for carrying out all the functions and activities. Efforts made to acquire sufficient land in the central area of the city for this ambitious project failed. It was felt at this stage that the programme of requirements could be modified to meet only immediate needs. The revised programme was therefore drawn up in accordance with the available site and spaces needed which were estimated to cover 5,000 square meters of building besides several open courtyards as circulation spaces. According to this requirement, the architect C.M. Correa prepared the plan (see Fig. 12 a)

The site available for this project of the Crafts Museum was an interesting one. The Handicrafts Board had set up, on the Exhibition Grounds, a Rural India Complex as a temporary exhibition of rural arts, crafts and habitats for the Asia 72 Fair. This complex created a typical rural environment

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[1] . Smita J. Baxi, The Crafts Museum at New Delhi, *Museum*, Unesco, Paris, 1979, pp.96-99.

through its huts and courtyards, displayed with artifacts representative of the folk arts and crafts of different regions of India. There are several courtyard walls adorned with Madhubani, Warli, Pithora and Rajasthani folk paintings, and huts constructed with the same materials and techniques of the region, and built by the craftsmen who were brought specially to New Delhi from their villages. The work includes a Banni hut of Kutch, a Naga hut of Nagaland, a Mehr hut in Gujarat, a Gadaba hut of Orissa, a Rabha hut of Assam, an Adi hut of Arunachal, a Nicobar hut of Nicobar Island, a Toda hut of the Nilgiri hills and a Kulu hut from Himachal Pradesh. There are other huts constructed with mud walls and thatched roofs wherein the craftsmen demonstrated techniques and processes of different crafts during special exhibitions and fairs. A site adjoining this Rural India Complex was selected for the new building of the Crafts Museum, so that the two units could be integrated into one complex. Two separate teams, each consisting of an architect and an interior designer, worked on these two projects but in collaboration with the team of museologists and museum founders.

The construction programme had to be revised as it had to be carried out in phases. The delay in construction gave time for rethinking the whole project, so that the original design of a modern building, with top-glass and glass walls opening on the internal courtyards was transformed into a functional and flexible urban structure with characteristic tile-roofed verandahs, surrounding the open courtyards at the entrance and throughout the building, merging with the surrounding complex of rural habitats, made of mud and bamboo walls, with thatched roofs. The plan (Fig.13) now provides for additional spaces as residential units incorporating display-cum-workshops for craftsmen, where they can devote themselves to the study of museum specimens, which may lead to experimentation and new creations. In short, the museum's major activities will focus on the research for development of new designs in handicrafts. The museum will also carry out its other functions of collection, preservation and exhibition.

The new concept

The concept of this museum, as a centre of real activity of use to craftsmen and connecting at relevant points to all the activities of the All India Handicrafts Board, represents a departure from the conventional role of a museum as a mere storehouse of culture.

The museum display, research and cataloguing system will portray a living craft process, projecting the evolution of different craft skills, forms and

usages and connecting them wherever possible to our present needs. Therefore, out usages mentioned and the present collection will be further supplemented with a view to provide the necessary information for the better planning of production-oriented craft workshops and programmes all over the country.

The museum will actively co-operate in defining the present state of craft activity. It will provide in-house training and technological inputs on a limited scale; identify and document the socio-economic situation of mastercraftsmen ; explain available traditional and new markets for their goods, as well as help to conceive and realize all communication and promotional efforts of the All India Handicrafts Board, by spreading its consumer education programmes.

While providing the necessary facilities and environment conducive to on-the-spot activities and ongoing research in crafts, the museum can become a place of special interest for the general public and international visitors, who do not normally have the opportunity of experiencing the craft process so directly.

In order to understand the craft culture which is so deeply embedded in Indian living traditions and in order that people may appreciate the pioneering nature of the board's work in making the past serve our present, the proposed museum will not merely display artifacts, information and demonstration on pedestals and in glass cases, nor will it keep to traditional rules of functioning (opening from 10 a.m. to 5 p.m.). What has been planned may well create the first national institution of its kind in this part of the world, organized to become a mini-module for a university of crafts'.

Some Controversial Examples of France [1]

Discussing about a few controversial examples in France, Pilatoobserved, 'the construction and interior design of museums has been a subject of inquiry for many years, especially in the Federal Republic of Germany and the United States. In France, however, museum architecture only began to arouse interest with the policy of 'major museum construction works'

[1] . Dominique Pilato, Some controversial cases-the examples of France, *Museum*, v.XLI, n.4, 1989, Unesco, Paris, pp.215-220.

whose latest developments we have recently witnessed. With the Grand Louvre and a few others museum architecture has become a fashionable subject and has received abundant medial coverage.

However, all this excitement about museum architecture does not seem to have affected the museums outside Paris which existed long before the Georges Pompidou Centre ; if nothing else, this goes to show the general public's lack of interest in them. Yet a considerable amount of research and experimental work has been going on in the French provinces for many years, and the most prestigeous achievements are fruits of this research. It is perhaps stating the obvious to note the difficulty that some of these museums have in making themselves known and finding their own identity. The fact is that, despite prestigeous alterations, some French museums are experiencing serious problems in functioning adequately.

The proportion of new museums in the total number is consequently very small. Only since the 1950s has there been a move to design buildings specially adapted to the function of presenting and preserving collections and receiving visitors.

The following observations are drawn from the findings of a survey conducted among professionals directly involved in the construction of new museums, such as architects, curators and planners. This research has made it possible to take stock of developments and trends in museum architecture in France and to highlight some of the mistakes or shortcomings of the past thirty years. While these may be acceptable and understandable where old buildings are concerned, they seem in many cases inexplicable when it comes to projects initiated from scratch. The shortcomings pointed out by the curators and museum specialists questioned on the subject are not cited here with a view to stirring up conflict, but in an attempt to learn from the experience of projects carried out between 1960 and the beginning of the 1980s whose architecture continues to arouse controversy.

For most of the buildings, the architects had in mind possible changes in the interior layout, but made no provision for extensions: when space runs short, the museum is doomed to asphyxiation or arrested development.

Situated as it is on the sea front, at the edge of the town, one museum has strong poetic appeal. Set in such surroundings, the museum is inevitably caught up in a flow of seafaring activities, the site and the architecture each setting off the other. While it is splendidly situated, in a residential

neighbourhood devoid of activity. The artist's essentially aeshetic vision has created a museum which is unable to attract the local population.

To sum up, the museum is architecturally superb, with its light and space, but has never been functionally convenient to its users.

The treatment of space : a frequent dilemma

A new building project, ideal though it may be for a prospective study of the interactions between the functions and operation of the facilities it is meant to provide, does not always succeed in solving the problems of treatment of space. The Museum of Archaeology is an example of operational paralysis due to unsuitable premises. The museum was inaugurated with little publicity apart from protests. Only after five years after its inauguration, the museum proved to be unusable and had to be closed to the public. A series of errors created the situation leading to this decision:

The museum is unrecognizable as such from the outside. The building has no specific image or identity in the city.

The museum was designed with four ground-floor entrances. As there are not enough staff to man the four entrances, only one is open. At the same time, no provision has been made for access by handicapped persons.

The collections are spread over two floors, the visitors are prohibited from using the lift, they have to use the one and only staircase, which makes circulation inconvenient.

There are no directions and signposting inside the museum.

There is no system for controlling the light streaming from huge windows. Throughout the museum, particularly on the ground floor, the lower halves of the windows have been blacked out by wooden panels-so as to increase the display surface-and the upper halves are hung with venetian blinds to control the light. These arrangements conflict with the original architectural design.

There are problems of weatherproofing and insulation: the temperature is too low and there is no hygroscopic control.

Certain areas were set aside for outside terraces, but no allowance was made for a carpentry workshop and a cultural-activities room. Parts of the exhibition area on the firsts floor have been closed to the general public for use as a workshop and a children's area.

Last but not least, the museum suffers from the fact that its working facilities are scattered over various levels of the three buildings, with the library, secretariat and curator's office on the second floor, a deputy curator's office on the second floor, a second deputy curator's office on the first floor. As can be imagined, the dispersal of these premises throughout the museum makes co-ordination very difficult; it would have been more rational to group these complementary activities together.

Would not thorough programming have made it possible to avoid this unsatisfactory distribution of space?

Work on Guiry-en-Vexin Museum began in 1982, but its curator was appointed in 1981, in other words when the architectural plan was approved. The plans were drawn up by non-professionals, and equipment needs do not seem to have been adequately defined. In fact, the museum is organized along the lines of a nineteenth-century museum. No provision was made for either a projection room or a restoration workshop. The latter occupies the space originally intended for the reserves of the temporary exhibition room. The carpentry workshop has been set up in a corridor, as have activities for schoolchildren. All these arrangements are hidden from public view by various expedients, but they detract from the harmony of the building and the pleasure of the visit The reserves are too small, which means that the collection of stone objects is stored in the courtyard. Moreover, the exhibition rooms themselves are not large enough. Four years after the museum was opened, an extension was already being considered.

A museum in a shopping centre

The museum is unique- and is the only example of its kind in France-in being incorporated into a shopping centre. One of the shops on the mall was purchased and so arranged as to provide direct access to temporary exhibitions. The ideal was to attract shoppers to the museum. One of the shops on the mall was purchased and so arranged as to provide direct access to temporary exhibitions. The idea was to attract shoppers to the museum. One of the driving forces behind the project was the firm determination to get away from the museum as a consecrated institution.

Despite these good intentions, the functioning of the museum is hindered by the fact that it has been difficult to fit into a space which was not designed to house a facility of this kind. The display area is composed of disparate interlocking compartments without any real unity. The reserves are too small and to reach them it is necessary to go through the library.

In Orleans, the new museum goes unnoticed

The construction of the new museum was subordinated to a vast urban development project. Its external architecture was designed without any genuine regard for the need to adapt an institution of this kind to its urban function.

A competition won by an architect provided for a single facade design for all the buildings around the square, including the museum, in order to stress the unity of composition. To avoid offending conservative local taste, architect opted for conformity to the main features of classical architecture. His reconstitution, prompted by a concern for overall harmony, is faithful to the last detail. There is nothing to distinguish the museum from the other buildings, and indeed it passes unnoticed.

The interior layout of this new building raises the same problems as all rehabitated monuments. Museography has had to submit to the constraints of a given space, and not the reverse.

Inaugurated in 1984, the new Orleans museum is one of the most important museums outside Paris.

The architects' self-imposed design of the facade has, however, interfered with the internal organization. There is no need for a plethora of windows in a museum which paintings by Old Masters predominate. Finally, there are no relaxation areas (cafeteria, bar) in the museum, though this would have been an asset for a project of this size and would have provided a focus of conviviality in a square where it is sadly lacking.

These few examples highlight the sometimes difficult relations between architects and curators. The rivalry stems from mistakes made after the Second World War, which were partly due to a lack of any precise regulations concerning museums. To that may be added each side's ignorance of the other's profession. The subject is a seed-bed of conflict between scientists complying with precise rules for conservation and at

times reluctant to accept new ideas, and architects prompted by equally legitimate aesthetic concerns. A thoughtful prospective considerations of the issues involved, conducted jointly by both parties, would have been the only way of reducing misunderstandings and building up the confidence needed for the success of the projects undertaken.