STONES OF BRITISH COLONIAL LAHORE: A STUDY OF TWO REMARKABLE BUILDINGS OF EARLIER PERIOD OF BRITISH COLONIAL ARCHITECTURE

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ABSTRACT: Among many milestones of British Raj in Lahore, the Lawrence and Montgomery Halls, presently known as Quad-e- Azam Library are the master pieces of earlier period of British architecture in Lahore which were constructed with the subscriptions of British and Indian communities of the Punjab, as memorial in the honor of two European commanders of British Indian Empire. These buildings have been greatly surviving for the last 149 years and still hold prominent position in building stock of Lahore. To find out the reasons behind the longer survival of these remarkable British colonial buildings in Lahore, this paper explores the architectural design, structural scheme, adaptive reuses and the main driving forces behind the origin of Lawrence and Montgomery Halls. The paper concludes that flexibility in architectural planning, structural stability and acceptance of building form are not the only areas which keep the major architectural and structural intervention away from the buildings but suitable selection of adaptive reuses related to the original functions of the building can also play a vital role in survival of older buildings.

Keywords: Lahore, Lawrence and Montgomery Halls, Quaid Azam Library, Adaptive Reuse, Colonial Architecture, Colonial Stone, Standard Design.

INTRODUCTION

Lawrence and Montgomery Halls presently known as Quaid - e - Azam Library are located in the premises of Jinnah Garden (the then Lawrence Garden) at Lower Mall Road (the then Mian Mir Road) Lahore. The main driving forces for creation of these buildings were "emotions and sentiments" of European and Indian communities of Punjab to acknowledge the service of two European commanders of Indian Empire namely Sir John Lawrence (Governor General and Viceroy of India from 1864 to 1869) and Sir Robert Montgomery (the first Lieutenant Governor of the Punjab from 01-01- 1859 to 25-02-1859), for their contribution to the British Indian Empire generally and betterment of the Punjabi people particularly. Beside European community of the Punjab, the Indian force of Rajas Maharajas, Nawabs from Punjab, Kashmir and other areas of India remained in front to arrange the funds for the conversion and depiction of their feelings into physical form through a building to serve as memorial to attribute Sir Lawrence and Sir Montgomery. The construction cost of Lawrence Hall was Rs 34000 whereas Rs 174,000.00 was spent on construction of Montgomery Hall including the cost of Rs 66,000 for its re-roofing and renovation during the year 1875 (Latif S M, 1892) .

Lawrence Hall was built as memorial during the life of Sir John Lawrence (1811-1879) who started his service in India from Assistant District Officer in Delhi and after serving at different posts finally attained the position of Governor General and Viceroy of India (1864 - 1869). Soon after the annexation of Punjab he served as member for Board of Administration in Lahore (1849-53) which was headed by his elder brother Sir Henry Lawrence. During the period of 1853-58 he held the position of chief commissioner of the Punjab and later on became the first Lieutenant Governor of the Punjab (01-01- 1859 to 25-02-1859). In lieu of valuable services rendered to British Indian Empire by him, he was decorated with the awards of G.C.B (Knight Grand Cross of the Bath) and G.C.S.I (Knight Grand Commander of the Star of India). In addition to construction of a Memorial in Lahore namely "Lawrence Hall", three statues were also erected to him in Calcutta, Lahore (Mall road) and London (Buckland, 1905).

In the office of the Lieutenant Governor of the Punjab sir John Lawrence was replaced by Sir Robert Montgomery (1809-1887), (Roy, 1914). According to Buckland (1905), Sir Robert Montgomery served for long time in India. He joined Bengal service in 1828, Magistrate Collector at Allahabad in 1839, commissioner of Lahore in 1849, member Punjab Board of Administration in 1851, Judicial Commissioner 1853, chief commissioner of Oudh 1858, second Lieutenant Governor of the Punjab 1859-1865 and finally member of the council of India from 1868-1887. He was decorated with K.C.B (Knight Commander of the Bath) in 1859,

G.C.S.I (Knight Grand Commander of the Star of India) in 1866. On the basis of his commendable polices and outstanding working, he always remained favorite personality before the people of Punjab which resulted construction of one memorial namely "Montgomery Hall" during his life nearby Lawrence Hall, Lahore .

Lawrence and Montgomery Halls were designed by the chief engineers of Public Works Department namely Mr. G. Stone and Mr. J. Gordon, respectively (Kunhya Lal, 1877). The construction of these buildings were completed under the supervision of Rai Bahaduar Kunhya Lal, who was serving as Executive Engineer in Lahore under Public Works Department (P.W.D) of the Punjab.Two Indian namely Muhammad Sultan and Lala Mela Ram were employed as contractors for Lawrence and Montgomery Halls respectively (Chughtai A, 2001). Halls were constructed during different times and these were connected through a closed 18 feet wide corridor. There is much dispute on the construction dates of these halls. The most reliable source in this regard is the articles written by Kunhya Lal (1877) on these buildings where the years of construction for Lawrence and Montgomery Halls are reported as 1862 and 1866 respectively. Later on Syed Muhammad Latif (1892) had mentioned the same dates in his book written on the history of Lahore. Although Latif had not given any reference to Kunhya Lal but the details related to halls in his book reveal that the article of Kunhya Lal, published in 1877 was just reproduced. According to marble tablets fixed on the wall of entrance lobby of Montgomery Hall the construction date of this Hall is 1867. According to "London News" the construction of Lawrence and Montgomery Halls was completed in 1861-62 and 1866 respectively (The Illustrated London News, 1864, 1866).

In (2001), Chughtai reported that Lawrence Hall was built in 1863 and Montgomery Hall in 1867. He supported his argument with Punjab Government Home department's proceeding No.10 of 25th July 1863 and mentioned that contractor of Lawrence Hall, Muhammad Sultan had written a letter to secretary of government Punjab on 15th July 1863 wherein the delay for completion of hall was explained and it was assured that building will be completed before the arrival of the Governor of the Punjab in Lahore (Chughtai A, 2001). It might be the final finishes which were not completed for which contractor wrote letter to secretary Punjab. However, the opening ceremony of Lawrence Hall was made by Sir John Lawrence, the Viceroy of India on 17-10-1864, to whom the building was attributed. Sir Robert Montgomery, the then Lieutenant Governor of the Punjab was also present on the occasion. After completion, the Halls became the largest one in Lahore with all modern facilities and were used for variety of activities including social gathering, public meetings, theatrical entertainments, musical performances and durbars which defines the multifunctional dimensions of the halls and flexibility in architectural spaces. The decision to establish Mayo School of Art and Atchison College in Lahore were also taken in the meetings held in these halls. The Halls were also used for two meetings of Punjab Legislative Council, examination, meetings of Senate and annual convocation of Punjab University. Duke of Edinburgh also visited these halls in 1870 and besides a grand function in his honor the dancing party was also arranged in Montgomery Hall. Mian Mir Institute was established in these Halls in 1878 and a large collection of books from Anarkali Book Club (housed in Wazir' Khan Baradari presently known as Punjab Public Library) and Station Library (previously housed in Soldier Garden) was transferred to this Institute.

In 1906 when responsibility of repair and maintenance of Halls was transferred to Punjab Government from Municipal Committee then halls were taken on lease by Gymkhana Club and instead of 'Lahore and Mian Mir Institute' it started to be known as Gymkhana Club. In 1972 the Gymkhana Club was shifted to a new building near Bari Doab Canal on Upper Mall Road which started its construction in 1968. In 1981 it was decided to establish a model library in Lawrence and Montgomery Halls. A committee under the chairmanship of Chief Secretary Punjab was constituted on 17th May 1980 to work on the project (Chughtai A, 2001). The Governor Punjab, Lt. Gen. Jilani Khan took keen interest in establishing the library and finally on 25th December 1984 the official inauguration was made by Gen. Muhammad Zia ul Haq, the President of Pakistan. Since that time the Lawrence and Montgomery Halls were known as Quaid-e- Azam Library.

Although the adaptive reuses of these buildings have much similarity to the original functions of the buildings but the memorials which were built to acknowledge the services of two British commanders of Indian Empire had been renamed in 1984 from Lawrence and Montgomery to Quaid- i-Azam Library, which resulted to place the buildings away from their original context to act as memorials. However, the role of architectural scheme, structural system and adaptive reuses for longer survival of these buildings are discussed in the following sections.

Architectural Aspects: The Lawrence Hall fronting the Mall Road from its longer axis measures internally 32'-5" x 65' and externally 37'-5" x 70' whereas Montgomery Hall is facing the central avenue of Jinnah Garden formerly called Lawrence Gardens through its longer axis and hall measures 46' x 106', 92' x 152' from internally and externally respectively. Both Halls stand on a raised platform of 4'-6" from road level creating a commanding position on surrounding environment. The Montgomery Hall covers the whole space from all sides

on raised platform whereas in Lawrence Hall an open space of 13'-6" wide is provided to all sides except the rear side which is connected to Montgomery Hall through a covered corridor of 17'-3" wide and 81'-8" in length. Besides connecting both halls the corridor also provided space for reading room and pictures gallery (Fig-1).

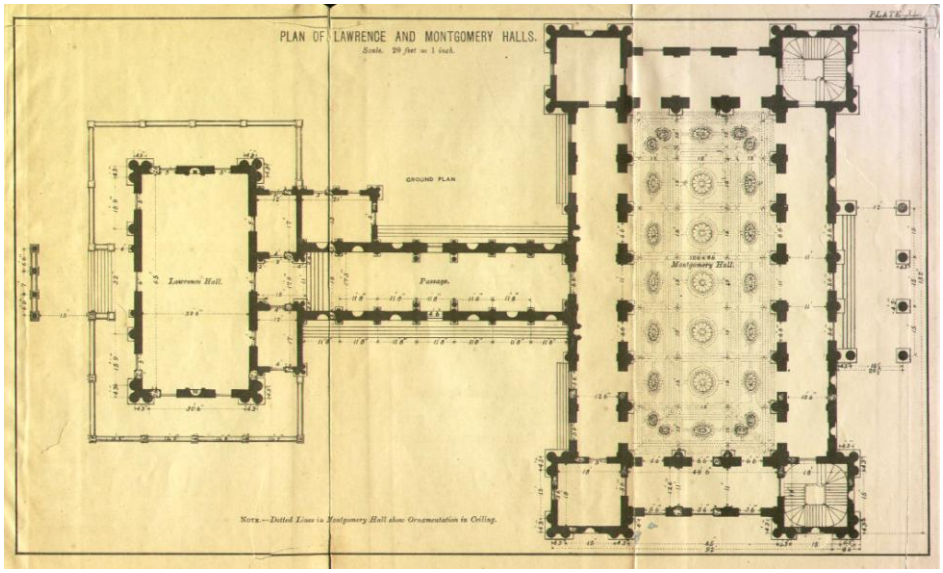

Fig 1: Plan of Lawrence Hall (left) and Montgomery Hall (Rt) in 1877. Halls were connected through a corridor

It revealed from the original drawings and old images of the Halls that a clock tower was part of the whole composition, originating from the mid of the connecting corridor of the Halls. Although the tower was holding a prominent position due to its central location between the two halls and furthermore supporting the verticality of the buildings from comparatively low height corridor but it could not survive and was probably damaged during the earthquake of 1905. This symbolic architectural element of prestigious buildings of colonial period of India was not restored and buildings seem deficient of it (Fig-2).

Fig 2: Central Clock Tower once existed between two Halls.
Source: British Library

However, the interior designing of this gallery was accomplished by the students of Mayo School of Art presently known as National College of Arts under the supervision of their Principal John Lock Wood Kipling. Mayo school had once again worked on renovation of decorative work under the supervision of Principal Mr. Persi Brown when Kangra Earthquake of 4th April 1905 gave some damages to Montgomery Hall. Mr. Persi Brown was awarded Rs 500 against the work. During the same year the electric lights were also introduced in the Halls to make these more attractive during the visit of Prince and Princess of Wales who visited these Halls in Nov 1905. A grand function was arranged in the honor of prince and princess followed by a dance party which continued till late night on wooden floors of the halls made of deodar wood in Lawrence Hall and teak wood in Montgomery Hall. The flooring of the buildings other than halls was made with burnt hexagonal tiles laid in cement (Chughtai A, 2001).

The corridor connecting the Halls terminates from its ends at the centre of rear sides of longer axis of both Halls. In this way while standing in front of Lawrence Hall both halls comes together in building composition which reveals that at the time of construction of Montgomery Hall the existing scheme of Architectural style of Lawrence Hall was completely followed for new building. Similarly a large basement was also constructed during the year 2010 on available space to south–west orientation of the Halls to meet the increasing demand of extension in adaptive reuses of the buildings. To make the movement ease from both halls to basement the

entrance of the basement is made through the corridor connecting both halls. Furthermore, the height of the basement has been restricted to the height of the raised platform and in this way the new construction creates no disturbance in external appearance of the building. However, any future construction on basement roof shall badly affect the existing views from south west sides.

The buildings were made with symmetrical composition in an efficient manner, creating interest for the viewers at all level from closer as well as longer distances through small and large scale richness which still holds field all around the building. Although the buildings came into existence with combined efforts of European and Indian communities of Punjab but its overall statement reflects that it was intended to reflect the classical style of architecture which was mostly in practice at that time in Europe for the buildings of such importance. The major architectural elements of buildings composition are massive walls, round arches, Doric order, lofty columns, horizontal lines, pediment, small windows, balustrade and floral patterns (Fig-3 and 5).

These typical elements of European architecture with standard details had been extensively used on Exterior and interior surfaces of the buildings during colonial rule in Lahore. The deviation from standard details was strictly forbidden. These architectural elements which define the style of Lawrence and Montgomery Halls as classical, unfold that when Europeans and Indians "emotions and sentiments" for their two commanders of British Indian empire were transformed into physical form of a building, the natives' participation could not find any space in the whole composition and remained only limited to the documentation of names on two marble tablets in the entrance lobby of Montgomery Hall. In contrast to the building style the native languages Urdu and Hindi were used to inscribe the names of Native chiefs and others to document their subscription for the memorials.

Fig 3: Exterior (Southern View) of Montgomery Hall. Photo by Authors in 2010

However, such practices were common in many memorials built during British rule in India and later on these ideas were transformed into Anglo Indian Style of architecture during the last quarter of the 19th century when Indian and European architectural elements started to appear together on buildings façades. Some important buildings of Lahore also witness the amalgam of Indian and European architectural traditions where plans were made by Europeans and exterior by natives. In fact the rich Indian Architectural heritage and European spatial requirements in Indian climate and environment let the natives to design exterior of the buildings and European architects/engineers to make the plans of the buildings. It can be interpreted as "European and Indian Architectural friendship" emerged in the form of Anglo Indian Style of architecture which continued in many buildings of architectural importance during colonial period in Lahore and as well as in other part of the British India (Vandal, 2006) .

Like other plain areas of the British India, the climate of Lahore remained a prime considerations and a serious concern before the engineers and architects in designing of buildings for the use and occupation of European community in Lahore. To make the buildings climatically sustainable under critically conditions during summer in Lahore, various planning strategies were adopted which had already successfully worked in other plain areas of India. In result of planning against hot climate the most common features appeared in colonial buildings were thick walls, verandah, high roof, high level wall ventilators and small windows. The climatic role of these architectural elements made them essential and leading features of colonial buildings in India. Similarly in Lawrence and Montgomery Hall the thickness of external walls (building envelops) was made as 30 inches to minimize the heat penetration inside due to increase in time lag. A corridor of 12'- 6" feet wide as buffer space was provided to all sides of the Montgomery Halls to protect the main building against rain and unwanted direct solar radiations. The internal heights of the halls was made more than 58 feet to increase the volume of the buildings so that SVR (Surface-to-Volume Ratio) could be reduced resulting minimum effect of outdoor temperature on inside thermal conditions of the building (A Khan, 2010).

In the process of renovation of Halls by the Punjab Archaeology Department during the year 2010-11 it is observed by the author that Indian brick of smaller size (Chotti Eent) measuring 8" x 4" x 1.5" was used in original plans of Lawrence and Montgomery Halls whereas all additions of later period were built in English bricks of size 9" x 4.5" x 3". The rooms on both ends of Lawrence Hall were constructed in English bricks and these were not given in original plan (Fig. 1). However, in many buildings of earlier period of British rule in Lahore the English and Indian Bricks both were used side

by side in the construction of buildings (A Khan, 2010). Kunhya Lal (1884) commenting on history of Lahore unfolds that ruins of old buildings outside the walled city were excavated deep into their foundations by many building contractors for obtaining and selling bricks on cheaper rates. These bricks of smaller size were used in many buildings of early British period in Lahore as these were ready available on cheaper rates as compare to English Bricks. Mian Muhammad Sultan the one of the contractors of Public Works Department (PWD) was famous in selling old Indian bricks. He as contractor of Lawrence Hall provided and used Indian bricks for the construction of these buildings.

The building external and internal walls are made of 'pucca' brick laid in lime mortar with lime plastered from both sides. The appearance of walls was made different from other colonial buildings of Lahore by making white marble stone like finishes on all external surfaces of the building. The stone like finishes were achieved through providing 2.5 inches thick lime plaster layer over Indian bricks masonry and dividing it into rectangular pieces looking like natural marble stone. Each surface looking like stone was polished to create natural impression of white marble stone finishes. With all this arrangement the building once creates illusion for viewers. The exterior walls which are 60 feet high, have only small projection against rain protection therefore 2.5 thick lime plaster layer also acting as barrier against rain water penetration inside the buildings and this technique is successfully working since a long time. The uses of lime plaster and lime mortar were also common traditional practice in natives' buildings before pre colonial period in Lahore. The major ingredients of lime mortar reported in different studies during British period are 'kankar', pit-sand and 'soorkhee' (pounded bricks) but some time various substances like coarse sugar and egg shells were also added to obtain strong and fine mortar (Medley, 1863). The physical examination of old mortar used for brick masonry and walls plaster for Lawrence and Montgomery Halls reveals that its constituents are Lime and Kankar. In renovation during 2010-11, all damaged plaster was peeled off and 2" thick new layer of lime plaster was provided on external walls and columns. The major ingredient of this mortar is fine powder of Kankar containing a large quantity of Lime, paste of white lime and Jute Fibers. The mixing of Kankar Lime Powder and Lime Paste is mostly made with the ratio 2:1. The fine powder is prepared after burning Kankar at high temperature and then grinding in mill.

Structural Aspects: The main vertical structural elements of both buildings such as foundations, columns, walls and arches are made of 'pucca' brick ((burnt brick) laid in lime mortar whereas roofing system of both cases is wooden trusses covered with lime terraced concrete in Lawrence Hall and galvanized corrugated iron sheets in Montgomery Hall. Although there is no record available on the foundations of the buildings but in view of the information available on foundations of other colonial buildings of Lahore which have almost similar magnitude and height, it is reasonable to suppose that foundations of Lawrence and Montgomery Halls would be 12 -15 feet deep with 3-5 feet lime concrete bed and above that 9-10 feet 'pucca' masonry. The exact information can be obtained through onsite investigation by means of core drilling.

The wall thickness varies at different locations from 24-36 inches depending upon load requirements. As the walls are more than 60 feet high therefore, numbers of columns were provided at regular intervals in internal and external walls which are integral part of these walls and act as bracing member to increase the structural strength of the building under critical conditions of wind load and other loads of the building. In case of Montgomery Hall the intermediate floor of gallery further provides the bracing to buildings against lateral loads. In addition to participating in structural stability of the building the columns are effectively playing their role in aesthetic scheme of the building for interior and exterior as well. In all corners of the buildings a set of three columns are provided which strengthens these critical points and also create a pleasing impression on corners. In case of Montgomery Hall the corners are further strengthened by planning auxiliary spaces in square shape 18'x18' (Fig 1).

The original roof of Lawrence Hall is still working successfully. It is Deodar wooden trussed roof with ornamental flat wooden ceiling underneath and lime terraced concrete as roof covering. The original roof of Montgomery Hall (1866) was bricks vaulted roof which could not sustain and suffered much cracks and finally re-roofing of lighter construction was made in 1875 with trusses of Deodar wood overlaid with galvanized corrugated iron sheets. The new roofing was designed and executed under the supervision of Kunhya Lal, the Executive Engineer of Public Works Department (P.W.D.) Lahore. His calculations for the strength of trusses reveal that a comprehensive detailed analysis of structure was carried out to avoid any further risk of structural failure in future. The external height of the building is 69 feet-3inches therefore in addition to considering other loads the wind pressure was also taken in considerations for the design of 46 feet span truss with 8.5 feet rise. The average interval of trusses from centre to centre was taken as 5 feet. The vertical load consists of the weights of roof covering truss frames and ceiling was taken as 40 lbs/sft whereas normal load, consisting of wind pressure acting normal to roof surface, on one side of the roof at a time was considered as 30 lbs/sft. The most interesting part of truss is the wooden tie beam for 46 feet span. It was formed after jointing two wooden

beams of cross section of 14" x 8" by overlapping almost 9 feet in the middle of the truss. The overlapping parts of wooden beams were jointed carefully with iron strips making attachment with king-post, Queen Post and Purlins. The dimensions calculated and implemented by Kunhya Lal for different components of truss are; Principal Rafter 10" x 8", Tie Beam 14" x 8", King Post in the middle 10" x 8",Queen Post 8" x 8", Strut 7" x 7", Purlins 6"x6", Common Rafter 3" x 2", Ridge Pole 7" x 4", Wall Plate 8"x 6", Pole 6"x4" and Purlin Blocks 12"x6" [Kunhaya, 1877]. The truss system is not visible from exterior and interior of the building. It was completely covered from the interior with ornamental wooden coved ceiling with colorful floral patterns and from exterior with brick masonry parapet wall therefore, one cannot see roofing system while standing inside or outside the building (Fig 4 and 5). The roof and ceiling have been generally surviving since their construction. However, the roof

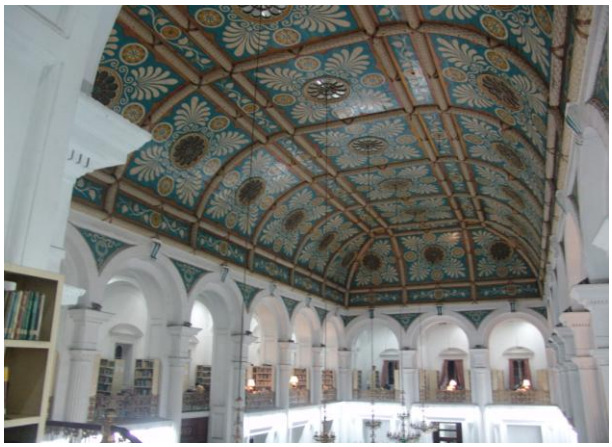

Fig 4: Interior view of Montgomery Hall (2010)

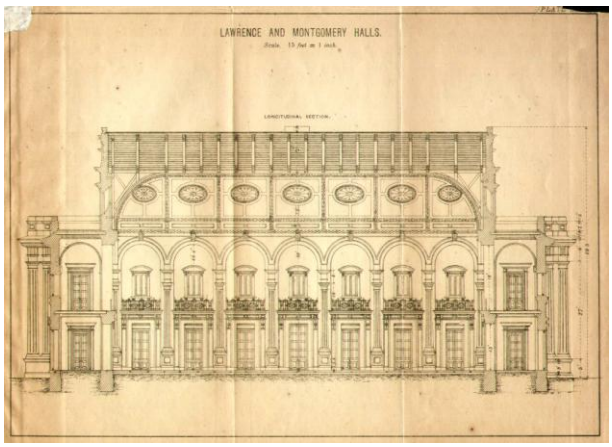

Fig 5: Longitudinal Section of Montgomery Hall showing original details

of gallery adjoining the porch was damaged partially due to the movement of porch during the Kangra Earthquake of 4th April 1905. The capital of the porch columns, arches over the gallery and ceiling of corridor adjoining the both halls also got cracked during the same earthquake (Middlemiss 1910).

Adaptive Reuses: The buildings' stock of Lahore holds large numbers of buildings from colonial period (1849-1947) on variety of uses but the buildings purposely built for educational, health, residential, religious and public service functions are still existing and performing their original role successfully. In these types of buildings no major intervention occurred and little modifications helped the users to accommodate the requirements of the day without disturbing structural scheme and external aesthetics of the buildings. The present working condition of the buildings of such categories located in different areas of Lahore reveals that much importance was paid to them on the basis of their functional nature therefore these are regularly attaining the attention of building controlling authorities since their creation for maintenance and repair which added more and more years to the life of these buildings. The leading examples of such buildings having the age of 100-150 are Lahore Passengers Station now Lahore Railway Station (150 years), Punjab University, The Lahore Government College presently Government College University, Central Model School, Veterinary college , Mayo School of Art presently National College of Arts , Convent of Jesus and Marry, General Post Office (GPO) , Exhibition Building , Lahore Museum, Lahore Cathedral, The Punjab Chief Courts presently Lahore High Court and Victoria Jubilee Town Hall presently Office of Lahore Municipal Corporation. These examples clearly indicate that buildings stock of colonial period in Lahore is mostly from education, health, religious and service buildings. The flexibility to continue the original use with new requirements became possible in these buildings due to their structural system, architectural spaces and external appearance working all together to support the building function. The key factor for longer survival of these buildings is the nature of function for which these were purposely built.

The continuity of original uses to greater extent in Lawrence and Montgomery Halls made the survival of building possible for the last 150 years. In fact the halls were purposely built for durbars, readings, official meetings, social gatherings, cultural evenings, entertainment, theatrical and sports activities. At present time the main use of the buildings as library is in fact the partial continuation of original functions which supports the architectural spaces and structural scheme created long ago and in result of that the building underwent little intervention such as addition of stairs for upper gallery in Montgomery Hall and some rooms with Lawrence Hall (Fig. 5).

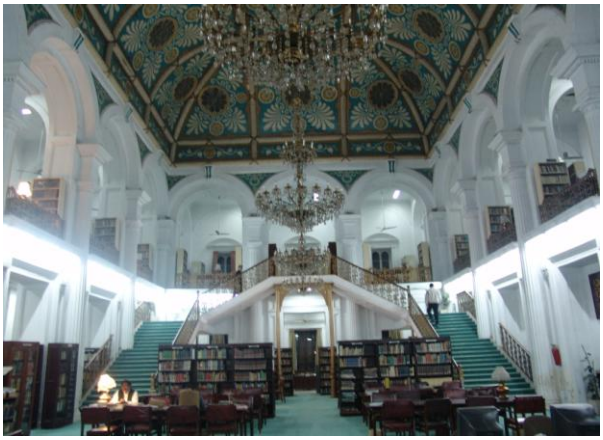

Fig. 6: Stair of Montgomery Hall. Photo by Authors in 2010

The building adaptive reuse and external appearance became so acceptable that it brought further extension in the existing use by constructing a large basement hall in the year 2010 with full sympathy to the existing architectural style. The present renovation of building under taken by the Punjab Archeological department in 2010-11 further proves the architectural significance and worth for adaptive reuses.

Conclusion: The partial or complete continuity of original use in an old building plays vital role to attract the attention of building controlling authorities for maintenance/repair /renovation and hence the longer life.

A building can survive for a longer time if it's architectural, structural and external appearance support together to building function. The flexibility to adjust new requirements in old buildings is only possible when structural system, architectural scheme and external appearance should support the changes.

The standardization of architectural details in the buildings of British period in Lahore is a useful tool in reconstruction, repair, maintenance and renovation of old buildings wit.

In deciding adaptive reuses for old buildings a careful selection of uses can play a vital role in longer survival of old buildings. Many old buildings in Lahore are on their last legs or losing their originality on the reasons that inappropriate reuses have been adopted for them and major intervention are taking place.

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