Early History of Mayo Hospital: a view from the rooftop

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Mayo Hospital (popularly called Meu Hoospital) was a landmark building for Lahore. It needs no address however any thing addressed to the hospital is bound to reach it. Mayo is the one of the oldest British period public building and certainly the oldest hospital in Pakistan. In 1871 the first stage of this historic building was opened at a cost of Rs. 1,50,000, Annas 3 and Paisas 8. The hospital was named after Earl of Mayo who visited the hospital in 1871.. Further additions were made later. The original building was placed out side the Walled City of Lahore on the south side. The site of the hospital is located on an ancient mound amid the old Sarais and the gardens of pre British period. Sarai Mohammed Shafi was located to its north-west (now New Delhi Hotel) and Sarai Rattan Chand towards the east of the hospital. Of the pre Mayo Hospital structures today only the Rattan Bagh gate can be barely seen amid encroachments. Three small mausoleums are also there but their structure is of later period. To the north are the Shah Alami and Lohari Gates of the Old City. Study of the construction sites in Mayo (under publication) the hospital site is a habitation mound extending more than 20 feet from the ground level today[1,2]. Large number of Mughal Period burnt brick and mud brick walls were seen at these construction sites. Potsherds and rare figurines were found. It is likely that this was the oldest part of Lahore (pre Mughal). The growth of the pre Mughal Old City has been traced from Shah Almi and Lohari Gates including the Mayo Hospital mound may have formed a part of the pre Gaznavid Lahore[3]. In the 1920 map of the Old City the area to the north of the hospital was shown to be occupied by Hindus.

Mayo Hospital old building today comprises of number of interconnected structures added at various times. The objective of study was to see how they relate to each other in time. We also wanted to determine the site of the original building of the hospital. We surveyed the hospital from the rooftop and compared the building to the 1871 photographs.

In 1870 the hospital was to serve the needs of 70,000 inhabitants of Lahore City and rest of the Punjab. It was also to serve the needs of Lahore Medical School, which opened in 1860. Punjab of the British times covered an area of 135,773 miles. It extended from Jamna in the east and Indus to the west. In the north were the Himalayas and Rajputana desert was placed in the south. Punjab had 28 districts administrated by the British while there were 43 states[4]. The medical school was established in Lahore at an early date because the Calcutta Medical College students did not like the climate or the food of western India. The students from the Punjab and Frontier were not willing to go to Calcutta for medical studies for the same reason. The previous hospital, in Hera Mandi and the Anarkali Dispensary were not sufficient for the needs of the medical school [5]. Furthermore these make shift hospitals were in a very poor condition. The British also wanted a good medical facility on their western frontier. Mayo was the only custom built hospital in Punjab at that time (including Delhi). Today the building is crumbling and old grandeur is gone but it refuses to die [6]. Even one banian tree (as seen in the photograph of 1871) to the south of the western wing has survived ravishes of time.

Hospital designing depends upon local environmental conditions, technology available at the time, local culture, the functions it has to perform and finally the vision of the architect. The latter part is most difficult because of rapid changes in the practice of medicine. In the 1870s medicine was emerging as a science. The hospital was based on limited developments in surgery, mainly eye surgery, while medicine was almost primitive. Eye and ENT surgery were in the forefront and were given weightage with a special eye unit although there was no concept of a specialist surgeon. A surgeon was a true generalist and had to perform surgery of the eye, ENT, gynae, trauma, remove bladder stones and what little he could do in terms of abdominal surgery. On the other hand communicable diseases such as cholera and typhoid were endemic in the area and frequent out breaks of water borne diseases mobilised the staff and students of the Medical School. The hospital was supplied with water from 3 wells and it was reported that the water was of good quality. Nevertheless Prof. Neil a prominent teacher at the medical school died one evening within hours due to severe form of 'cholera'. Plague and malaria were also rampant and frequently devastated the population of Punjab.

The hospital employed only one House Surgeon. The concept of House Physician came later. Nursing care concept had yet to develop. The 'head coolie' and an 'assistant coolie' provided nursing care for the patients. Operation theatre facilities were poor by later standards. Initially north veranda in the central part of the building was converted into an operation theatre. Later a room was used for the purpose. It is not surprising that the most modern hospital of its times constructed in 1871 became obsolete by 1872.

The earlier development of hospital system had an impact on future developments of Mayo Hospital. Ophthalmology and ENT were under the same surgeon and were an important speciality with separate beds. These specialities were separated after 1947. At the time of Partition besides general medicine and surgery eye and ENT were the major specialities. The northern section added later was given to these specialities. Diseases of the

women were considered as important and for some time were treated in Mayo but in early 1880s Lady Aitchison was opened next to the Mayo. General medicine and Surgery became important and resisted opening of new specialities. In any case there was limited space in the old building. The sweepers grew up with the hospital and made a permanent bond with hospital. Generations of sweepers have grown up with the Mayo and still occupy the almost derelict accommodation.

The ground plan of the Hospital was prepared by the Officiating Principal of the Medical School who modified the plan given by the Governor General in Council[7]. Architect W Purden who was the Superintendent Engineer made further improvements. Rai Kunhya Lall the Executive Engineer of Lahore supervised the building. The building was started in March 1867 and finished in March 1872 at a cost of Rs. 1,58,941. Patients occupied the new building in September 1871 and the hospital was fully functional in May 1872. It was initially called Lahore Medical School Hospital. Soon it was named after Viceroy Earl Mayo who visited the hospital in October 1871. That was his last visit to Punjab before his death soon after.

Prior to the establishment of the hospital patients were treated at the Anarkali Dispensary (probably the Office of the Surgeon Medico-legal today). With the opening of Mayo Hospital a drop in patient attendance was noted because the hospital was at a distance from the City but became popular in the next few years.

The hospital placed in east west direction was 408 feet long and 51 ½ feet broad with a central tower 107 feet high. The double storied build was 46 feet high with four sloping roofs each at a distance to ensure ventilation. The latrines at the four corners of the building were 60 feet in height. Each latrine tower had sloping roof. The roof was covered with slate and a lot of Delhi (actually Agra) red sandstone was used as protection of the ventilators. The double storied building housed four wards each catering for 24 patients. Even today the ward has 24 patients. Each ward was 115 ½ feet long, 22 ½ feet broad and 18 feet high surrounded by a veranda on three sides. Today the veranda has been enclosed with wire mesh to keep the flies out. The calculated air space for each patient was 1,949 cubic feet whereas the recommended air space at that time for a hospital in the tropics was 1,500 cubic feet. Ventilation was an important item in hospital construction. Large vents were placed in the lower story while foot diameter circular vents covered with perforated zinc sheets helped ventilation of the upper story. For heating two fireplaces were constructed in each ward to keep the temperature above 56° F during winter. The roof of the ground floor was constructed with 'Jack arches'.

Access to the upper story was by a straight 12 feet broad stairs to facilitate movement of beds. Presently the stairs leading up to the upper floor is placed in the old tower block and it is neither straight nor 12 feet broad. Perhaps the present opening in the central area was the original staircase. At the four corners of the building latrines were placed which were approached through a short open passage. Great care was taken in the designing of the four latrines (there were other latrines away from the Hospital). These latrine towers were 60 feet high. Some time later the terminal portion of the towers was reduced in height. The brick work of the latrines carried perforations to allow free flow of air. Five latrines in each toilet were partitioned with wood. Each latrine had a bucket of earth and a glazed urinal. Separate staircases served these latrines for *Bishtis* and sweepers and were cleared twice a day. *Bishtis* supplied water in goatskins for the use of the hospital. They also watered the paths to keep the dust down. Sweepers were a special Hindu low cast who cleaned the latrines and the wards. It seems that the bathrooms were avilable elswhere away from the Hospital building.

The accommodation of patients was based on religion and ethnicity. The ground floor on the west side was occupied by Muslims and the east by Hindu and Sikh patients. The upper floor west side was occupied by European male patients. While the farthest end of the east side was for females. On the ground floor the centre of the building was used for storage, three out-patient examination rooms (medical, surgical and eye) and a small laboratory. The south side of the central space in the upper floor was used for accommodating eye patients, general store and doctors accommodation. The north side central veranda was modified to be used as an operation theatre. A 3x7 feet glass was placed for lighting the theatre[8]. Later (1886) the operation theatre was extended by enclosing part of the veranda in the north. In the same year the ceiling of the lower wards was painted with a mixture of tar and sand [9]. Trees were planted along the walkways.

In 1873 Mayo Hospital functioning was reviewed by a Committee and report presented to the Secretary to Government, Punjab by A Brandreth Commissioner and Superintendent, Lahore Division [10]. In this report it was observed that the approach to this 'handsome building' was marred by the presence of cattle and 'sweeper quarters'. The price of land had shot up with the building of the hospital yet it was advised that this should be bought. The Committee suggested that since the Europeans patients created law and order problems they should have a separate building. The natives could not control these patients and thence required a 'European Wardener with police powers'. They were a menace to the police in the bazar next door and 'might spread disease among women'. At any given time only 5 to 6 Europeans occupied the ward and hence precious space was wasted. On the other hand the outer wall was considered as too low to prevent the native patients from 'begging in the bazar'. The Committee suggested that a water pump should be installed to supply the upper story. The floor of the building also came under criticism since they were of burnt brick tiles, which was difficult to clean with water. The staircase was found to be too steep for transport of beds.

In 1873 'head coolie and assistant coolie' did the nursing in the ward! The Committee recommended that the 'head coolie' should be given Rs. 2 /month extra.

The Report of 1874 complains that little action had been taken on the Commissions recommendations[11]. The out-door attendance increased from 22,012 in 1873 to 27,238 in 1874. Increase in attendance of women and children were taken as a success of the institution among the native population. Inoculation of children (cowpox) also increased. However the Home Department observed that while the admission of children was only 12% of the total but they comprised 50% of the deaths in the hospital. The daily average of Out-patients was 168.312 while that of In-patients was 73.75.

Patient load of the Mayo Hospital in 1874. Out-Door

Ethnicity	Male	Female	Children
Europeans	208	106	64
Eurasians	460	232	134
Muhammadans	8,226	4,042	1,679
Hindus	6,823	2,880	1,475
Others	476	267	166
Total	16,193	7,527	3,518

Patient load of the Mayo Hospital in 1874. In-Door

Ethnicity	Male	Female	Children
Europeans	76	5	3
Eurasians	40	19	5
Muhammadans	534	120	21
Hindus	378	67	14
Others	23	12	6
Total	1,051	223	49

A total of 1,093 major operations were performed at the hospital in 1886. Of these 74 were for bladder stones (69 perineal lithotomy and 5 lithopaxy) [12]. This was the period when suprapubic approach for removal of bladder stones was considered too dangerous.

In 1911 a total of 233,637 operations were performed all over Punjab. Of the 25,817 'selected operations' 11,564 were for lens extraction. Of the bladder stone operations 111 were conducted in Mayo, 216 in Multan and 107 in Jullandur[13].

During year 1899 the income of the Hospital was Rs. 53,852 and the expenditure was Rs. 49,698 [14]. The hospital did receive a grant from the government but was also raising funds on its own. Budgeting was an important function of the administration.

In 1902 the 'Ophthalmic Block' was added to the Mayo [15]. Unfortunately the Report does not localise the new addition but we can assume that it was the ground floor of the north building, which had been traditionally occupied by the Ophthalmology Department. The professors' chairs for ophthalmology and midwifery were created in 1909 [16].

The addition of blocks towards north and south took place in 1911. The marble plaque on the northern section indicates that the addition to the hospital was financed through King Edward Memorial VII Fund. Sir Louis W Dane Lt. Governor of Punjab and Dependencies opened the 'Mayo Hospital Extension' on 21st December 1911. The new additions were a true copy of the 1871 structure. However two large metal water storage tanks were added and a basement was constructed. Further extension of the Mayo Hospital was to start in 1914[17] and it was felt that the output of the hospital would increase further [18]. It was perhaps at this time that the central tower was dismantled. The tower resting on two arches was replaced with a three-arched flat roof for the protection of the stairs leading to the roof.

In 1915 the 'new main block' of the Mayo was completed. This is the present façade of Mayo. With the raging World War I the hospital had to keep 50 beds for the war victims. Large number of army recruits were from Punjab and a need was felt to accommodate them in their home province. Other major hospitals in the province were also asked to keep beds for war veterans [19]. Thus it seems that the present main building was built in 1915. 'Dane Block' is now the West Operation theatre. The facade of the new building did not follow the old pattern. This time only the main hall had a sloping roof and the front was triangular with a large clock. Although the ground floor veranda had arches but the upper floor veranda had square form with double pillars. The same form has been repeated in the Nawab Fathe Ali Qazalbash Staff Quarters placed to the south of the present hospital main building. The same was copied in the later day construction of Broom Hostel for boys. With advancement of sanitary technology the toilets with bathing facilities were attached to the new building. The old marble plaque of the 1871 commemorating the opening of Mayo Hospital building by Earl of Mayo is now placed above the main entrance door built in 1915.

Conservation

One of the most important chapters of our history is the period under the British Raj. It is this period, which has had the strongest impact upon shaping the building environment of Pakistan since independence. The advent and consolidation of British rule was a watershed that divided our modern culture and society from its traditional roots. Not only is this period significant for the introduction of new materials, sciences and technologies, but also for the introduction of a new, Euro-centric world view: the set of values and concepts which have transformed practically every aspect of our daily lives, from the structures of governance, law, and the economy, to the systems of education etc. It is also one of the periods that we seem to be least interested in knowing about.

One of the largest enterprises of the British in India was the development of Canal Colonies of the Punjab. This not only radically transformed the very landscape of the region, it changed the ethnographic map and introduced settlement patterns based on a network of "chaks" and "mandi" towns. The characteristic grid-iron planning of these villages and towns was shaped by the municipal engineer's pre-occupation with health and hygiene coupled with the convenience of laying out streets, sewers and other municipal services in neat straight lines,

using only the simplest of drafting tools - the set-square and T-square. Much the same principles of planning were applied to the new cantonments and the "lines" - civil, native followers and police etc. The rules and building regulations devised for these settlements have continued to form the basis our urban planning and building designs to this day.

We may not appreciate the extent to which something as apparently innocuous as the introduction of British standards - brick sizes, units of weights and measures - has irrevocably changed the ways in which buildings are designed and constructed. Perhaps more obvious has been the impact of new materials - Portland cement, mild steel, sheet and then plate glass -, new modes of transportation - railways, motor cars, aeroplanes - and new sources of energy.

Yet there is no record of when these changes came about in our part of the world, in which buildings, by whom and where. While much of our historically valuable structures have already been lost, a great deal of this history still remains locked in the surviving British period buildings. One of the most valuable collection of such structures is certainly located in the Mayo Hospital complex.

With its major buildings dating from the last quarter of the nineteenth century to the first quarter of the twentieth, this complex represent a rich resource for the study of the evolution, not only of hospital design, but of public buildings generally under the British in this crucial period.

We have already noted above how some of the changing concepts in medicine were reflected in the sizes of wards, the elaborate arrangements for ventilation, the orientation of buildings, the location of latrines, and introduction of specialised departments, operation theatres and etc. What still remains to be studied is the materials and techniques used in these buildings in relation to contemporary developments in building technologies, the relationship of the architectural forms to the contemporary discourse, and the influence of these buildings on other buildings in the region.

These buildings could provide invaluable data for a chronological mapping of the use of British standard sized brick, the use of lime and "surkhi" mortar, "jack-arches" and steel girders in the roofs, timber trusses, cast iron elements, mild steel, Portland cement and reinforced cement concrete, modern plumbing, electricity etc. in this region.

Similarly, a comparative study of these buildings with their counterparts in other parts of the world, particularly the styles in vogue in England, and subsequent buildings in this region itself, would establish the part played by these buildings in the larger drama of cultural imperialism. A drama in which the role of architecture needs to be better understood. The "Grand Tradition" of our indigenous architecture was one of the casualties of the impact of imperialism on the culture of our region.

Buildings, as much as place names, are a part of the "living " history of a people. They conjure up, even to the layman, a vivid image of past eras. They represent landmarks, which locate us in time and space, giving us our very identity and sense of place.

They continue to yield valuable information as long as they are available for study by successive generations of scholars. The object of conservation is to ensure that these structures will be around for as long as possible.

But the first step in any conservation effort would have to be a proper documentation. That is the accurate measurement of the buildings on plan, in section and elevations, including a precise recording of details of form and materials. The second step would be a "conditions" survey to study the causes of decay of the building fabric. This may include the effect of living organisms -human, animal or vegetal growths-, sources of damp, chemical analyses of mortars, bricks, stone etc. and a stress and strain analyses to determine structural stability and behaviour of foundations, beams and roof trusses etc.

Only after such studies can the conservation engineer propose necessary interventions. But it is for the conservation architect to ensure that the interventions do not violate the architectural character. In case any restorations are to be made these will require expert advice of the architectural historian. And in the case of buildings that are in active use, the architect will have to work very closely with the users (hospital authorities in this case), to ensure that the demands of "adaptive re-use" are harmoniously integrated into the detailed conservation proposals.

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