



Ernst May and Modern Architecture in East Africa

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INTRODUCTION

With the arrival of the modernist Ernst May in Tanganyika in 1934, modernist architecture in the real sense of the word started in East Africa. Dennis Sharp, who first introduced the East African modernism pioneers in the history of modern architecture and to whose pioneering works this paper owes much, has also appreciated the connection between May's activity there and his career in Germany. It is the aim of this paper to clarify the meaning of the modern architecture in East Africa in conjunction with its situation of ex-suzerain, as observed through the work of May who was one of the leading modernists in Europe as well as being influential to progressive architects in Britain as the vice-president of CIAM: why and how modern architecture was introduced and welcomed in Africa, though the credo-cube international style originated in Europe, where climatic conditions are very different. This paper also discusses his client Aga Khan, who was a typical promoter of modern architecture in East Africa, especially referring to his facilities in Kisumu analyzing the original drawings.

LIFE HISTORY OF MAY

Ernst May was born in Frankfurt-am-Main in 1886 and studied in Darmstadt, Munich and London. In 1908, he worked under Raymond Unwin in garden city planning and showed talent as a city planner. After his return to Germany, he was highly praised for his first housing projects in Roemerstadt and Praunheim. Then he achieved the most important post of City Architect, and administrated the housing scheme of the city from 1925 to 1930 [fig 1]. It was his task to reconstruct cities that suffered damage from WWI, and he constructed large scale housing that provided a high quality of living for workers' families at low cost. By 1928, he had executed about 7,500 of the most modern houses of the time. This brilliant achievement led to his becoming an important architect and planner in Europe, and he was appointed as a vice-president of CIAM (Congrès Internationaux d'Architecture Moderne), which was the most influential international modern architects' organization at that time. He organized the second congress of the organization in Frankfurt on the



fig 1 Praunheim Siedlung by E. May in Frankfurt 1926-1929 (source: ref. 15)

theme of housing for minimum existence, and he also edited a progressive magazine titled 'Das Neue Frankfurt'.

Along with his talent for planning, it is noteworthy to refer to his excellent ability to resolve social problems by means of scientific and rational approaches. Even in housing for the working class, he pursued a high standard of modern living that was more than merely effective or functional. His planning was firmly based on realistic principles aiming for a sound life. It was his invention to build mass housing with prefabricated concrete panels that was called 'May System' [fig 2], and he promoted the standardization of building design, even for tombs, in order to provide low-cost and high-standard housing.



fig 2 Prefabricated panel construction of Praunheim Siedlung (source: ref. 15)

In 1933, worrying about the growth of Nazism in Germany and being invited by the USSR, May went there as the leader of a group of some 20 architects, city planners and engineers to develop the Frankfurt scheme in Magnitogorsk, Kusnetsk, Stalingrad and Leninsk. But in 1934, he left there because he was unable to agree with the authorities on the architectural expression of the projects, including shape. He went directly from the USSR to Tanganyika being unable to return to Germany because of Nazism.

During 1940-1942 he was interned in South Africa and after returning to Nairobi in 1942 he became a naturalized British citizen. In 1952, because of the seriousness of Mau Mau, he returned to West Germany and continued his career, contributing to the satellite city planning in Kranichstein. He died in Hamburg in 1970. During the war, he was released from internment by the British authorities and advised of the overall plan for the capital, Kampala, because of his abilities as a planner and architect. May started his work in Kenya in 1937 and designed his own house and studio in Nairobi, which were completed in 1939. A few years later he designed the Delamare Flats [fig 3] in the same city. These projects retained traces of his early projects in Frankfurt



fig 3 Delamare Flats designed in 1939 and completed in ca. 1951, Nairobi (photo: author)



fig 4 Aga Khan School completed in 1952, Kisumu (photo: author)

in their appearances probably because of the comparatively mild tropical upland climate of Nairobi. After the war, his designs became clearer in terms of shape, which can be explained by his consideration of the climatic conditions. In 1952 Aga Khan School [fig 4] and Maternity Hospital in Kisumu [fig 5], which can be taken as appropriate examples, were completed. There were other works at the time including the House at Molo, Uganda Museum, Cultural Centre in Moshi and Residence for Aga Khan in Dar es Salaam.

He is thought to be one of the first modernist architects to adopt a scientific approach toward climatic problems, along with Maxwell Fry in West Africa. It is noteworthy that his main interest was planning and design for public use rather than for private use only. In the planning of Kampala town, he emphasized the importance of recreational facilities for the life of local citizens, considering the general social situation of the rapid growth of cities in East Africa. Erica Mann explains his characteristics well as follows, 'Logic, optimism and idealism were the main qualities which kept him active and young. He could always talk of 'the humanism of human well-being' as the beginning and the end of improved living or working conditions in a rapidly changing society'.



fig 5 Aga Khan Maternity Hospital completed in 1952, Kisumu. The first floor covered with screen blocks is the original part. (photo: author)

INTERNATIONAL STYLE IN BRITAIN

It may be meaningful to overview the general situation of the then British modernism, especially in connection with CIAM, in order to better understand the characteristics of modernist architecture. Modern architecture, expressed in the style of Cubism or Purism in Britain, was clearly inspired by the continental architects from Germany, Russia and France. Generally, it is called 'International Style', and is typically featured by a simplified cubic shape in white color that implies the aesthetics of

purification. The style was dominant among modern architecture in Europe at that time, and had a freedom from historical and traditional elements. It is said that the first house in this style in Britain was designed by Peter Behrens in 1925 for an engineering industrialist, W.J. Bassett-Lowke. And in the 1930's, in spite of the suppression of modern architecture caused by the political climate in Europe, there was still limited chance in Britain. In this context, several houses which were designed in advanced modernist style at that time were said to be the best examples in Europe. The cubic style in Britain was emphasized by three Germans; Walter Gropius, Erich Mendelson and Marcel Breuer in spite of their short stay in England and by three Russians; Serge Chermayeff, Berthold Lubetkin and A.V. Pliuckowski. The Tecton group led by Lubetkin designed 'High Point 1' and 'High Point 2', from which a big argument arose with the council due to their cubic expression and as a consequence they re-designed the entrance with caryatids [fig 6]. Generally then Britain was against the modern design, especially in traditional locations.



fig 6 Caryatids of High Point 2 designed by Tecton in 1938, London (photo: author)

As for British architects, the MARS (Modern Architectural Research) group played an important role in demonstrating modern architecture. The group, which included Maxwell Fry, Amyas Connell, Basil Ward, Over-urp, Lubetkin and others, was established to study and promote the modern movement and also applied CIAM principles and methods. It is said that it was after WWII that modern architecture got citizenship in Britain, much owing to the Festival of Britain in 1951.

MARKET FOR MODERN ARCHITECTURE

Soon after the end of WWII, the suzerains of African territories started introducing modern architecture to Africa accompanied by the policy of modernization. The architectural histories of Africa and Europe have completely different backgrounds and progresses, and

this is as true for modern architecture as it is for pre-twentieth century architecture. Attention must be paid to this fact when considering the background of the development of modern architecture in Africa, the architecture having originated in Europe where climatic and political conditions are totally different. Also the way architecture was introduced to Africa was unlike that of Britain, where it was strongly supported by progressive architects. In Africa governments played an important role in its introduction. Germany's case was exceptional compared with the general situation in Europe.

It was inevitable that both the colonial regimes and the newly independent African governments that succeeded them should adopt the prevailing Western architectural expression as their symbol of modernism instead of creating a new style for Africa. Another important factor in their choice of this style is that there was no touch of colonial history in the newly established design. It was the same for companies, especially for international ones. They adopted the international style as the symbol of progress in order to appear progressive and successful. This was true not only for architecture but also for other fields such as cars, fashion and living, which all reflected a strong yearning for modernity among the people in Africa.

For architects, these developing countries were a good market because of the freedom they were allowed in terms of design. At that time, the number of chartered resident architects in Africa was quite small. 1952 statistics on the ratio of architects to citizens were 1 to 1,350 in Britain and 1 to 500,000 in Africa. Though it is hard to compare these numbers by the same standards, the number tells us how busy architects were. As for the building regulations, they were the almost direct copy of Britain's. In Uganda just after the independence, the legal restrictions on the qualification of architects were comparatively moderate, but it was not so in Kenya and Tanzania where the resident architects had an association to promote their social status in the society.

CULTURAL BARRIER

But on the other hand, there was a complicated design problem for modern architecture: the cultural barrier. There seemed to be an architectural preference for Western styles, the better they feel. Progressive architects in African projects sometimes faced this problem. For example, the Architects Co-Partnership, which was a group of young and ambitious architects that designed many progressive pieces of architecture in West Africa, says in the Architects' Journal (1957) 'Architect-

tural prejudices are less seriously entrenched in Nigeria than in England. Only once during the three years that ACP has been practicing in Lagos has a design been rejected on the grounds of being 'too modern'. Rejection seems to be a rare case considering the huge amount of projects that were commissioned by large public bodies.

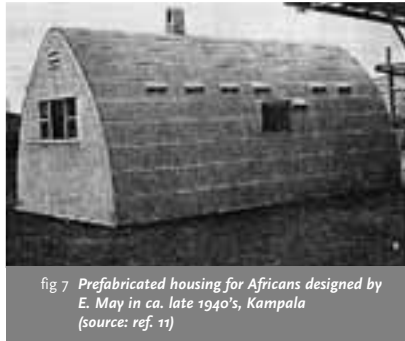


fig 7 Prefabricated housing for Africans designed by E. May in ca. late 1940's, Kampala (source: ref. 11)

Ernst May also faced the problem when he designed a house for a public servant of Uganda by a prefabricated concrete panel construction [fig 7] that was an extension of May's system in Frankfurt. His housing planning was carried out with deep understanding of the reality of the society and the design was advantageous to economical and structural problems due to his rational and scientific approach to modern architecture. Although it was a unique and outstanding housing design at the time in East Africa, and the people who were to live in the house praised the design, they did not welcome it, because the design was totally different from that of the British. It was 'too modern', so the design could not be established among the people. There was a limit to the development of modern architecture. Design like avant-garde or too modern was sometimes hardly accepted by the general public.

AGA KHAN AS A CLIENT OF MAY

It was fortunate and noteworthy that May encountered Aga Khan who appreciated the meaning of modern architecture and had a strong will of promoting this architecture in East Africa. Aga Khan III (1877-1957) was born in Karachi and raised with traditional Muslim culture and modern European education. His background influenced his later activity on the modernization of his community, such as the promotion of education and the improvement of women's rights. He was the imam of the Ismaili sect and influential in the Indian society in East Africa, comprised mainly of immigrants from

India and Pakistan who had accompanied the railway construction from the Indian Ocean to Lake Victoria. He was also an influential figure in the political world. In 1937 he became the first Indian chairman of the United Nations.

Aga Khan commissioned May to design some important projects in Kisumu: the H.H., The Aga Khan Girls' High School (The Aga Khan School) and the Maternity Home and Dispensary for H.H., The Aga Khan's Ismailia Provincial Council (The Aga Khan Maternity Hospital) are the direct realization of his policy mentioned above. In addition to the hospital, he also commissioned Amyas Connell to design the Aga Khan Platinum Jubilee Hospital in Nairobi, which was completed in 1963. Connell, who was a member of the CIAM branch in Britain, was also one of the leading architects in East Africa along with May after WWII. In 1950 in Mombasa, which has a long history of Muslim influence as a trading port city, May designed a huge hotel called 'The Oceanic Hotel' that was originally planned for Aga Khan's community and constructed after large amendments after his return to Germany. At the same time in Dar es Salaam, he planned a residence for Aga Khan.

ARCHITECTURAL ADAPTATION TO REGIONAL CONDITIONS

In terms of the adaptation of modern architecture to regional conditions, the climatic conditions of the Tropics were the most important factor in keeping the international style of cubic shape. On the other hand in East Africa, there was a good architectural model for the Europeans to live in comfort, that is a tropical bungalow widely introduced from India when the railway construction started. With wide verandahs and deep eaves around the house on stilts, and with one room thick layout for cross ventilation, the bungalow was considered to be an ideal house for them in the tropics. In this context, bungalows seemed to have contributed greatly as a reference material to designs by modernist architects, except for their steeply pitched roof.

As for the shape of roof, most of May's works in Africa were designed with flat rooves, but there were some exceptional cases such as the Nairobi Girl Guide Head Quarter and the House in Molo. The former has a pitched roof with tiles because of the shortage of building materials after the war, while the latter has a mono pitched roof, which has a touch of modernity. In the design of flat roofs, May spent a special attention on the protection of the interior from heat from the roof. There is a standard roof design by him applied to Delamare Flat, his own house in Nairobi and the Cultural center in Moshi, which are finished with-

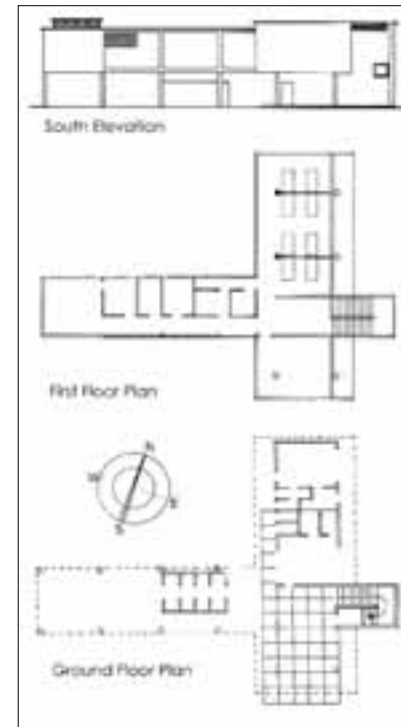


fig 8 Redrawn Elevation and Plans of the Aga Khan Maternity Hospital. Designed by E. May in 1952, Kisumu (source: original drawings)

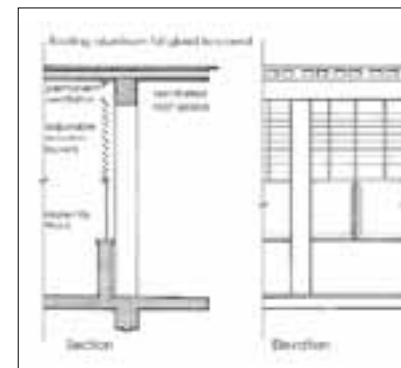


fig 9 Redrawn section and Elevation of the first floor of the Aga Khan Maternity Hospital (source: original drawings)

gued and grooved boardings, over which two-ply bituminous felt and aluminum foil were laid in strips across the whole width and glued to the felt with bitumen. In case of a concrete slab roof that can be walked on, 2 inch. diatomite blocks covered with bituminous felt and screed on it were laid on the slab. He devised a more advanced detail for the roof of the Aga Khan Maternity Hospital [fig 8 + 9]. The roof slab contains horizontal void spaces across the whole width within its thickness to secure ventilation inside the slab, which is similar to the idea of the ventilation system applied in the ceilings of his own house that was composed of fiberboard with the space between joists cross-ventilated. The roof is finished with aluminum foil glued to screed. Furthermore, he applied a special design of a monitor roof for the operation room based on the stack-effect of air flow.

He was also quite conscious of orientation, which decisively affects the comfort of living in buildings. Basically he aligned buildings on an east-west axis, except in the case of his house where he orientated the house so as to take advantage of the beautiful views. However, in Germany, he used a north-south axis for buildings, mostly for housing in Frankfurt. This explains his scientific and rational approach to climatic conditions. In Frankfurt, the sun-light is not as strong as in Africa, and it is considered reasonable to

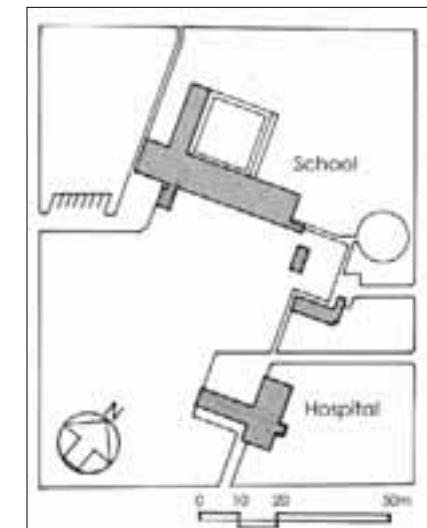


fig 10 Redrawn plot plan of the Aga Khan School and the Aga Khan Maternity Hospital. Designed by E. May in 1952, Kisumu (source: original drawings)

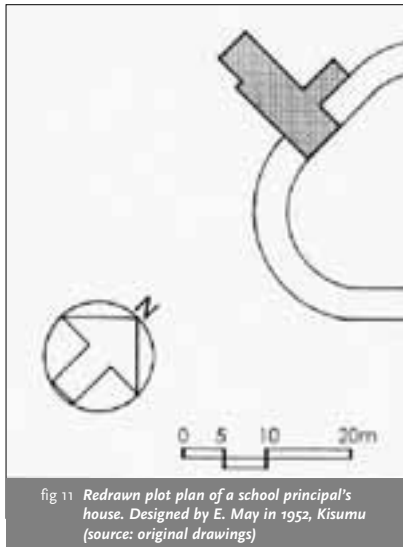


fig 11 Redrawn plot plan of a school principal's house. Designed by E. May in 1952, Kisumu (source: original drawings)

combine two rows of rooms along the axis; east side for bedrooms getting light in the morning and west side for living rooms. He took this careful consideration for orientation with him to Africa as can be seen in the site plans of the Aga Khan School in Kisumu which is located at the same site as the hospital [fig 10]. And the school principal's house [fig 11] shows how orientation considerably effected his site planning.

He designed several sun-breaking devices for their facades which had an aesthetic effect. Bold louvers [fig 4] attached to openings function like the deep eaves of a tropical bungalow to prevent strong sunlight and rain from coming into the rooms. This combination of sun-breaking devices enabled the architectural adaptation of the carefully designed flat roofs to the environment. In the case of the school, corridors above the first floor were shaded with fine screen blocks [fig 12]. The penetration of rain and wind was allowed up to this corridor space through the blocks which decrease the wind speed, and this corridor looks like a semi-outdoor space.



fig 12 Screen blocks of the Aga Khan School (photo: author)



fig 13 Pilotis of the Aga Khan School (photo: author)

Pilotis is an important design factor of modern architecture, as explained in the five points of modern architecture by Le Corbusier. The space raised on pilotis in the school [fig 13] is designed by May not only by mere fashionable sense but by careful consideration for pupils to provide a comfort exterior space when they take rest in sunny day-time.

CONCLUSION

Ernst May's works in East Africa showed a well-tempered design that can be seen as one of the orthodox school of the tropical modernism architecture in terms of a sound and rational expression retaining the dominant aesthetics of CIAM's international style. It might safely be said that his works in Africa were the extension of his works of Frankfurt. However, in the light of the architectural market, there was a subtle difference in character between his designs in Africa and Europe; the symbol of progress was the key word in promoting the architecture in Africa. And in this context, it might be understood why and how his works were welcomed and how he tried to respond to the needs of clients as a leader of the modern movement for his life.

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