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CAIRO OF THE FUTURE

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Cairo of The Future

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The city of Cairo presents a most interesting case study for the research project undertaken by the Aga Khan Award for Architecture, as it suffers from most of the typical urban disorders found in other contemporary Arab cities and which arise from a rapid and uncontrolled growth.

The city at present is facing enormous problems, among which congestion, caused by a shortage of housing, an inadequate transportation system, an absence of centralisation and strategically-located public service buildings are but a few. Its biggest problem, however, is its problem of alienation and the loss of an identity in its planning and architecture, caused by borrowing ill-fitted models from the West, rather than evolving naturally from its environment. Given the present overpopulation and its expected rate of increase, the need for a new Cairo that would be an outgrowth of the present one with the addition of an almost equal area is obvious. Thus we are confronted with several basic issues: first, where should the future site of Cairo be located and, second, which town planning system and style of architecture should be adopted?

Historically the city has changed its site several times. In the beginning of the Islamic Period, in the seventh century, Fustat was built by Amr ibn Al-Aas. He built his palace and mosque in 643. When the Umayyads were supplanted by the Abbasids, their rule spread to Egypt and, in 785, the Amir Al-Fadl bin Ali laid the foundations for a new mosque called Al-Azhar and the Palace of the Amirat. About one century later, Ibn Tulun found the palace much too small for the functions of the Amirat and his numerous followers. In 872 he built himself a larger palace at the foot of the hill on which the Citadel was to be subsequently built, and distributed all the surrounding land to his officers and courtiers. This new quarter was called *katai*, which means distributed plots, and spread from the palace to the river. In 875, Ibn Tulun built his famous mosque. Lastly, the walled city of the Fatimids, still further to the north, was founded in 971 by General Gowhar for the Caliph Al-Mu'izz covering an area of 350 acres. As the population increased to 100,000 during the reign of Al-Hakim, and expanded outside its walls to the south and to the north, new walls had to be built 150 metres further away.

Problems of Configuration and Growth

As the river was brought under control and the riverside marshes drained, the city gradually spread towards the west, completely filling the land between the Citadel and the river with modern quarters in European style, and moving the centre of the city from the Muski to Ataba al-Khadra and Kasr al-Nil. With the building of bridges urbanisation spread to the western bank of the river. The quarters of Zamalik, Awkaf City, the City of Engineers and others were constructed reaching out to the western desert and supplanting the arable land which used to provide Cairo with vegetables.

With the increase of population, quarters began to extend to the north and to the south stretching the city into a very elongated shape. In addition, the centre moved at right angles westwards to the main line of growth so that the form of the city ceased to represent the optimum configuration for efficient functioning, causing chaos and congestion.

Housing did not spread eastwards because of the Mokattam hills and the military barracks, leaving the area adjacent to the city from its eastern border to the Suez Canal open for the development of a new Cairo of the future. This would be the best site for any further expansion of the city: the eastern area with its linear centre extending lengthwise between the two Cairos according to the plan of "Dynapolis".

Nasr City, already in this area, indicates the feasibility of the idea. Saleh Salem Road could have served as the linear centre if it were designed so as to accommodate public service buildings, commercial buildings, fast and slow communication roads, car parks, etc., but, unfortunately, it was designed only as an ordinary street with buildings appearing chaotically to the east of the street, in an area destined to be the Cairo of the future and also its linear centre. However, when Nasr City was designed it was not intended to become an integral part of a new Cairo. The situation is therefore urgent and demands careful and thorough planning for the future development of this geographical area, defining its architectural style, and making the necessary decisions to halt any and all future construction which will not meet the requirements of the site or its architectural pattern.

Planning the Cairo of the Future

The system for planning the future city of Cairo has to contain provisions for quarters graduated in size in an organised manner, ecologically balanced from the smallest to the largest where every quarter is provided with the services appropriate to the number of inhabitants. From this standpoint, we can make use of the Dynapolis concept in which the city is divided into communities graduating from Community Class One, which is a street for about a hundred people, to Community Class Two, which is for five hundred — requiring a grocery and some space for children. Community Class Three is for one thousand people and provides for an elementary school. When it reaches between five thousand and ten thousand people, it becomes Community Class Four, which by then is a village requiring a secondary school, a market and public service buildings such as banks, post and telegraph offices, etc. The area for a Class Four community is based on a density of one hundred people per acre, requiring a square plot of 600 m × 600 m, and would allow the majority of the inhabitants — primary and secondary school pupils, housewives, people attending social and sports events — to be within walking distance from their destination, thereby economising on automobile traffic within the

quarter by no less than 80 per cent. Community Class Four is followed by Community Class Five for 50,000 people and Community Class Six for one million or more, graduating from a metropolis to a megalopolis.

Measures are being taken to separate heavy automobile traffic from pedestrians. In the Radburn System, for example, this problem was solved by the construction of a ring road surrounding the residential quarter with cul-de-sac streets extending into the housing area and open only to the street's inhabitants. A car park, surrounded by the houses, is in the centre.

So as not to lose a sense of the human, Community Class Four could be used as the basic unit on which to build the future city of Cairo. In order to ensure the feeling of belonging to one's quarter, the streets with closed vistas should be no longer than 50 m as they are found in the traditional Arab cities; whereas ring roads surrounding the residential quarters should be reserved for vehicular traffic only.

Architecture in Cairo of the Future

Architecture, one of the most important elements of culture, is an expression of the inter-action between man and his environment in order to satisfy his material, physical and spiritual needs. The aesthetic value of any project, as in architecture or town planning, is largely dependent on its intrinsic value to serve man and his needs, be they psychological or physiological.

In building a new Cairo of the future, we have to define who this man is and identify his needs so as to determine the architectural design and plan the town accordingly. This, of course, requires special research and could be included in the recommendations of this seminar.

The Problem of Alienation

Concerning the subject of culture and Arab civilisation, we are faced with the problem of alienation which now dominates the Arab countries in the field of urbanisation. We find in today's modern Arab cities, the adoption of an alien style in their planning and architecture rather than reacting naturally to the environment and respecting a cultural heritage. This problem of alienation is the result of foreign rule in the past and the impact of the historic-cultural and economic changes caused by the Industrial Revolution in Europe.

One of the most flagrant phenomenon of alienation in the architectural design and planning of today's Arab cities is the substitution of "introversion" in the design of an Arab house (in which the living rooms open onto the courtyard*, with its marble fountain and trees of scented blossoms protecting the intimacy so characteristic of the Arab-family system) by "extroversion" in which the living rooms open onto the other side, the street, with its black asphalt, car exhaust and noise.

Cairo of the future can become a triumph of man's artistry worthy of ranking with the world's finest examples of town planning. If the characteristics of the contemporary city and the Arab identity were ensured in the Cairo of the future, it could become a model for other Arab and Islamic countries, thus conforming to the aims and policies of the Aga Khan Award for Architecture.

Note

*The courtyard in the Arab house serves also as a temperature regulator, as documented in the research carried out by Daniel Dunham, entitled: "The Courtyard House as a Temperature Regulator".

Cairo of the future represents a most interesting case study for the research project undertaken by the Aga Khan Award for Architecture, as it suffers from most of the typical urban disorders that other contemporary Arab cities suffer from, which arise from rapid and uncontrolled growth.

The city of the present is facing enormous problems in almost all the urban fields: congestion, housing shortage, inadequate transport, entire lack of an adequate centre, lack of well located public service buildings, etc. And above all, it is suffering from the problem of alienation and loss of identity in town planning and architecture, caused by borrowing models from the West which do not fit, thus interrupting the natural urban development stemming from the environment. The present overpopulation and that expected in the near future asks for a new Cairo that is an outgrowth of the present one with the addition of an almost equal area. This imposes on us several essential inquiries. To start with where the site of this Cairo will be on the geographical area; what would be its adopted town planning system and what style of architecture would it have.

The historical city has changed its site several times. Fustat in the beginning of the Islamic Period, was built by Amr ibn Al-Aa's in the Seventh Century A.D. He built his palace and mosque in 643 A.D. When the Ummayads were supplanted by the Abbasids, their rule spread to Egypt. The Amir Al Fadl bin Ali in 785 A.D. laid the foundations of a new mosque called Al-Azkar and the Palace of the Amirat.

About one century later, Ibn Tulun found the palace much too msall for the function of the Amirat and the considerable number of his followers. So in 872 he built himself a large palace at the foot of the hill on which the Citadel was later built, and distributed all the land surrounding it among his officers and courtiers. This new quarter was called katai, which means distributed plots, and spread from the palace to the river. In 875 A.D., Ibn Tulun built his famous mosque.

Lastly the Fatimid walled city, still further to the north, was founded in 971 by General Gowhar for the Caliph El-Muiz. The area was 350 acres.

During the reign of Al-Hakim, the population increased to 100,000 and it expanded outside its walls to the south and to the north and the new walls were built a hundred and fifty meters away from the one ones in these two directions.

Problems of Configuration and Growth

Gradually as the river was brought under control and the river-side marshes drained, the city spread towards the west. So that today it completely fills the land between the Citadel and the river, in modern quarters in European style, pulling with them the centre of the City from Mouski to Ataba Al-Khadra to Kasr El-Nil. Bridges were built and urbanization spread to the western bank of the river, the quarters of Zamalek, Awkaf City and the Madinet el-Mohandessin (City of Engineers) and others were built drawing the built up area to the western desert encroaching on the green area which used to feed Cairo with vegetables.

As the population grew, the native quarters began to extend to the north and the south and the city assumed a very elongated shape stretching from south to north - while the center was ledd off at right angles westwards to the main line of growth so that the form of the city ceased to represent the optimum configuration for the efficient functioning of the city, causing chaos and congestion.

The native quarters did not spread eastwards because of the Moqattam hills and the military barracks, so the area contingent to the city from its eastern border to the Suez Canal remained empty and fit to contain Cairo of the future. The optimum solution for the choice of its site would be to have Cairo of the future to the east with a linear centre extending linearly between the two Cairos according to the plan of "Dynapolis".

Nasr City with its situation to the east could be considered as a sign of the workability of the idea. And the Saleh Salem Road could have been the linear center if it were designed accordingly with sufficient width to contain the public service buildings, commercial buildings, fast and slow communication roads, car parks, etc. Unfortunately, it was designed as an ordinary street. When Nasr City was built, chaotic buildings started to show to the east of the street in the area which is supposed to contain the Cairo of the future and its linear center.

On the other hand, Nasr City was not designed as an integrated part of Cairo of the future. The situations asks for urgently carrying out the planning of Cairo of the future on this geographical area and defining its architectural style and make the necessary decisions to stop the constructions of any buildings which do not fit their site or style.

The Planning of Cairo of the Future

Regarding the system of planning, Cairo of the future has to be composed of quarters graduated in size in an organic manner, ecologically balanced from the smallest to the largest where every quarter is provided with the services appropriate to the number of inhabitants. From this point of view, we can make use of the Dynapolis concept in which the city is divided into communities graduating from Community Class One, which is the street for about a hundred people, to Community Class Two, which is for five hundred - requiring a grocery and a children's park. Community Class Three is for one thousand people which needs an elementary school, and when the community reaches from five thousand to ten thousand, we shall come to Community Class Four. This community will become as a village requiring a secondary school, a market and certain public service buildings such as banks, post and telegraph offices, etc.

In the area for this community which had the basis of a density of one hundred people per acre, we shall find that we need a square plot of 600m x 600m. This area would allow the majority of the inhabitants - secondary and primary school pupils, housewives, nonsensives, people going for social and sporting meetings - to go on foot from home to destination, economizing on automobile traffic within the quarter by no less than 80%.

Community Class Four is followed by Community Class Five for 50,000 and Class Six for one million and more - from Metropolis to Magalopolis.

There are efforts in modern planning to separate the heavy automobile traffic from the pedestrians. In the Radburn System, this problem is solved by having a ring road for cars around the residential quarter with cul du sac streets penetrating the housing area, serving just the inhabitants of the street, with a park in the centre surrounded by the houses.

To respect the human scale in Cairo of the future, we can use the Community Class Four as the basic unit. So as to make man not lose his feeling of belonging to the quarter, the streets have to be meandering with closed vistas no longer than fifty meters as they are in the traditional Arab cities. In this way, the streets will work as a temperature regulator like the courtyard, and the architecture of the houses variegated expressing the variety of owners and respecting the aesthetic factor. This variegation will make the closed vista area like a movement in a sonata.

Automobile streets requiring to be straight and longish are to be used for the ringroads surrounding the residential quarters.

Architecture in Cairo of the Future

Architecture is supposed to be one of the most important elements of culture. Culture is defined as the resultant of the interaction between the intelligence of man and his environment in satisfying his needs, both spiritual and material. The artistic value of any project resides in the answer to the question: Is if for man, the psycho-bio-physiological man or for something else? If it were for this man, it can be discussed. But if it were for anything else, such as economy or politics, then any decision could be made with no discussion.

Regarding Cairo of the future, we have to define who is this man for whom we are planning and designing, and what are his spiritual and physical needs in housing in what concerns architectural design and town planning. This requires a special research which could be included in the recommendations of this seminar. Concerning the subject of culture and Arab civilization, we should cope with the problem of alienation which dominates the Arab Countries in the field of urbanization.

In the modern Arab cities, the Arab has adopted an alien style in planning and architecture which could never have developed if he were reacting personally with his natural environment, respecting his cultural heritage. This problem of alienation was imposed upon us in the past from outside by the foreign rulers and by the impact of the historical-cultural and economical changes resulting from the Industrial Revolution in Europe.

The Problem of Alientation

One of the most flagrant phenomenon of alienation in architectural design and planning in the present Arab City is the replacement of introvertion in the design of the Arab house in which the living rooms open onto the courtyard with

its marble fountain and trees with aromatic flowers protecting the intimacy which characterize the Arab-family system - and replacing it with the extroverted system in which the living rooms open onto the other side of the street, black asphalt of the streets, car exhaust and noise.

In addition to this, the courtyard as used in the house in the Arab City works as a temperature regulator, as documented in the research carried out by Daniel Dunham, entitled: "The Courtyard House as a Temperature Regulator".

Cairo of the future can become a triumph of man's artistry worthy to rank with the world's finest examples of townscape. If the characteristics of contemporary city and Arab identity were ensured in Cairo of the future, it could become a model for the Arab and Islamic countries, thus conforming with the aims and policies of the Aga Khan Foundation for architecture.