

*Theories and Principles of Design in
the Architecture of Islamic Societies:
A Ceremonial Approach to
Community Building*

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WHAT I HOPE TO SHOW in the following pages is that the values of excellence and beauty are needed to overcome the underdevelopment, alienation, and apathy now prevalent in most communities in the Islamic and the developing world.¹ I will also suggest that the central cause of that underdevelopment lies in the separation of the means of production, especially of the built environment, from what is germane to their cultures. Despite this separation, however, there still exist cultural mechanisms which are capable of linking the construction of buildings to the culture of the community. The “building ceremony,” in which the order of the community is identified, the creative energy of the people is released, and community resources and skills are regenerated, can be such a mechanism.

Until recently, rituals and ceremonies have taken place around particular building operations. In many communities today, however, building operations are under the exclusive control of formal institutions such as law and management. Whether recognized through rituals and ceremonies or controlled by law and management, the inner nature of these building operations suggests that a regenerative process similar to that which takes place around life crises, transitions, and growth may also be present.

A class of events in which the process of the community can be regenerated includes the definition of boundaries, the establishment of cen-

ters, and the connecting of the building to the community. If the regenerative process of the community is channeled into these building operations, then the building's construction can contribute to the vitality of the people and to the creative development of their community. If removed from the production of the building, the urge for regeneration does not die, but breaks out instead in violence, alienation, or apathy.

In many communities and in a variety of social and economic contexts, I have observed rituals and ceremonies centered on activities considered vital both to the process of building and to the life of the community. The similarity between these events led me to examine the relation between rituals in building and this sense of vitality and regeneration that takes place in them. Building, both in theory and practice, has thus far viewed these instances of regeneration as, at best, ancillary to the rational process of building.

Over the past few years, I have been using theoretical work as well as actual building to try to examine ways of using building ceremonies as mechanisms that can channel activity into the regular building process. My purpose was to understand whether building ceremonies are a part of building that can be the source of creative action or are simply blind reenactments of traditional rituals. These questions are important because the majority of the world's population live in communities in which custom and tradition are the only available means of organizing them. Whether one calls such communities informal, marginal, underdeveloped, traditional, or primitive, any development therein must fundamentally rely on local abilities and resources. The building ceremony, regardless of the community or culture, is the mechanism that links building with the community.

On the island of Mactan in the Philippines construction day is called *bayanihan*, which means "laughter." In Upper Egypt, the Nubian women of Kushtamna Garb dig deeply in the soil of the streets to reach a layer of fine sand, which reminds them of the ground in their old village. They move rhythmically, chanting the name of the occasion, as they spread the sand to repair the streets and the floors of their houses. In the fishing community of Kameshima on Wasaka Bay in Japan, the Yoimiya, or "night festival" is held on the second night of August each year. The young people of the community reconstruct a miniature shrine to house the "awakened gods" and carry it to the village. Then the boats, streets,

plazas, and buildings are repaired, and platforms are built as resting places for the awakened gods.

Mosque repair in Mali, house decoration in Nubia, barn-raising in rural America, land subdivision in Mexico, community gardening in Niger, and roof construction among the Berbers are only a few of the many examples that indicate how building has always been intimately connected to the people and their creative instincts that have produced both buildings and artifacts of great interest. The stark beauty of house decorations in Nubia and the majesty of a mud-brick mosque in Mali are just two examples of the products of these events.

All these instances are indications that a basic regenerative process similar to that which embodied the rituals and ceremonies of many societies and to the vital process which guides the growth and forms the identity of individuals may now in fact be operating in the building process. The fact that a great many societies have devised ceremonies around building – laying the foundation, constructing the main beam, laying the cornerstone, raising the roof, subdividing the land, establishing boundaries, and the sale or exchange of property, for example – suggests this. Today, however, the building ceremony has all but disappeared from building construction. The phrase “building ceremony” in itself suggests some kind of contradiction since building involves construction, finance, and law, while ceremony is associated with ritual, festivity, and regeneration.

Today it is fashionable to argue that building should remain separate from ceremony in the name of economic necessity, efficiency, or rationality. At most an appropriate integration between culture and production must remain on the symbolic level. Such an argument is, however, false and misleading. The integration of culture and production is both essential and possible. Evidence suggests that ceremony increases productivity, improves performance, and enhances the quality of the things that are produced. Building, more than any other productive activity, can combine economic growth with the vitality and creativity of the people and add to the accumulation of capital, knowledge, and authority, the regeneration of identity, creative energy, and community solidarity.

An actual community building project in Egypt – a cultural park for children near the Ibn Ṭūlūn Mosque in Cairo – gave me the opportunity to test out my theories. It well illustrated the advantages of this combi-

nation. The park site is a few hundred yards north of the Ibn Ṭūlūn Mosque. The project, whose design we were awarded as a result of a national competition held in the fall of 1983, was financed by the Ministry of Culture in Egypt. Among its facilities it included a children's museum, an open-air theater, a library, playgrounds, and gardens. The site was about two and a half acres with clusters of trees and the remnants of an older park called El-Hod el-Marsoud, which had occupied the site in the late 19th Century.

The community around the project is called al-Sayyidah Zaynab. It is one of the oldest, most densely populated, and poorly maintained quarters in Cairo, but also one of the most vibrant and lively. Its population is over a million, and it is rich in history. It is named after al-Sayyidah Zaynab, the granddaughter of the Prophet Muhammad. The mosques of Ibn Ṭūlūn and al-Sayyidah Zaynab are among the many great buildings from various periods that embody in their form some of the power, vitality, and meaning of the community's life there. More important than these monuments, however, is the lively festival of al-Sayyidah Zaynab held every year, during which the identity and the culture of the community are reenacted and regenerated.

When we began working on the scheme for the park we concentrated primarily on order. How were we going to conceive its geometry and organization, its images and symbols, in such a way as to capture the community's spirit? We were convinced that a project built right in the heart of the community had the potential to restore its creative capacity.

Every community has its own concept of order, a way of relating its existence to the universe. In al-Sayyidah Zaynab today, as in many other poor but vital communities, this concept is based on myth and belief but also has a scientific and ideological aspect. Design in such a community must strike a balance between analysis, abstraction, and rationality, on the one hand, and faith and submission to the community's ideas about order, on the other. We found an expression of the concept of order to be found in ceremonial processions and the rhythm of the folk dance (*zikre*) and music, in the structure of the oral poetic tradition, and in a few building rituals such as the foundation sacrifice and the laying of the cornerstone. We also used landmarks – the minaret of Ibn Ṭūlūn, the domes of several mausoleums, and land patterns – as messages that could reveal something about the configuration of the social order. The

configuration of a procession and the structure of poetic rhythm reflect belief and ideology in their relationships in space. The task of the designer is to disentangle these containers of order and discover their underlying geometry.

In our case, the point of departure was to find links between the growth of a child and the growth of the park, and we searched for events, objects, and symbols in the culture that could give this idea expression. The Ibn Ṭulūn minaret was clearly visible from the site, and it too became an inspiration for our order. We reconstructed the spiral form of the minaret in a series of geometric operations, informed by the shape and the elements of the site and organized in terms of the project's requirements. The first formulation involved the movement of two intersecting circles. The center of the first circle is a point at the intersection of the axis of a palm tree promenade on the site, with the main street leading from the entrance to make a significant visual link to the minaret. The center of the second circle was a large tree at the end of the promenade axis. The progression of each movement's intervals roughly followed the spacing of the palm trees along the two sides of the promenade. Program requirements and the patterns of activities within the different fields defined the final arrangement of the scheme.

A large fountain, modeled after the traditional fountains in Cairo, marked the center of the first area. A small café, playgrounds, playing fields, and platforms for observing these activities completed this first area.

Around the center of the second area, a cascade of spiral walls and terraces suggested the setting of the children's museum. Animals and birds were placed around it. The intersection of the two areas created a third set of geometrical relations where a variety of activities were located. The theater was placed so as to form two interlocking spirals around a triangular group of large Bengali trees. The border between the geometrical order of the park and the surrounding streets and alleys provided a setting for a café at the corner, an outdoor fountain and ablution place, a small *zāwiyah* (a little corner for people to meet) and an outdoor prayer area, several shops, workshops, and a very large outdoor community space made by including the alley within the walls.

After the competition awarded the scheme to our firm, a contract was signed for design development and construction, funds were allocated for

the building, and then ... nothing happened. The project had been blocked by political interest groups in the parliament. Several confrontations with officials, including the prime minister and the minister of culture, resulted in an official go-ahead, but still nothing happened. Something was wrong. We soon realized what it was. We had been trying to defend the project through public meetings and through the media, but the people in the community, the real supporters of the project, had no contact with either. They were cut off from the press and from the power structure, which in any case were confused about the image of the project and argued against its order and character. We realized we would have to mobilize the community to get the project moving, not just to defend the project but to build it. We looked for an opportunity to do this.

The opportunity came when the minister of culture decided to lay the cornerstone of the project during the National Festival for Children, a celebration held in Egypt in November of each year. Some officials, the architect, and representatives of the local community were scheduled to attend.

Normally a cornerstone laying is completely detached from the life of the community, but we proposed to the minister of culture that in place of drawings and working models that were usually displayed in a tent on these occasions and which to most people were meaningless, a real, life-size model of the scheme could be displayed to give the whole community a glimpse of what the project was to look like. The spiral geometry of the fountain, exhibits, museum, and theater would be constructed in a tent, and the platforms and terraces would be marked on the ground by colors. Each element would be mocked up full scale in its actual place on the site.

In our memorandum to the minister we also suggested inviting artists, musicians and dancers to participate. They could propose works suggesting the scheme, which could then be performed by school children from the local community. In this way we sought to restore the age-old function of the building ceremony that had been traditional in Egypt from the Luxor Temple and the mosque of Ibn Ṭūlūn almost up to the present day.

The minister was eventually won over to our scheme, though mainly because the ceremony was to be attended by the President and his wife and would draw attention to the significant role it was playing in the development of local communities. The image of hundreds of children

playing and dancing around the mocked-up part and the full-scale model, while tens of thousands of citizens looked on, appealed to the minister's political instincts, and he approved. We were given seven days to execute our plans.

We began by making a set of drawings that would enable the tent builders to produce a tent overnight. Tent builders work in two teams of four each. One man works from the top of a very long ladder, which he holds onto with his legs, moving the ladder about like a circus performer. The others on the ground deal with the ropes and spread the canvas over the poles that structure the tent. Our drawings had to follow this method of construction. On the site, local officials prepared the grounds for the tents and contacted schools, artists, and musicians. Within eighteen hours a two-and-a-half acre lot had been transformed from a deserted, rundown site into a fabulous scene of tents that beautifully, if not altogether accurately, reproduced the arrangement of the proposed scheme. The neighbors hung out of their windows, and peered off of rooftops and out of the tree tops to see the emerging event. Cheers like those heard at weddings and other festivities came from every direction. The children began to arrive to rehearse on the temporary stage that had been set up. For three or four days hundreds of them gathered in groups to practice, while a choreographer and the musicians worked out the performance to follow the configuration of the scheme. When they could not, we changed the scheme's arrangement. This happened several times and each time it did, the scheme was improved. Instead of the original plan disappearing from sight, it continued to evolve before my very eyes. I came actually to believe what I had claimed to the minister, that the great buildings of Egypt were always the result of ceremony. Certainly the performance of this festival added something to the plan that rational designing could not have conceived. The action of the community added a sense of wholeness that would otherwise not have been there.

Combining crafts with technology is a difficult operation because it comes into conflict with current modes of building. But in the case of our park it could not be built entirely with modern methods and still involve the entire community as the building festival had done. Working drawings, order forms, spec sheets, and legal documents seemed oddly out of place after the festival. The elements of the scheme remained the same, but the participation of thousands of community members in the festival

had introduced ideas and images that did not lend themselves to inclusion in working drawings. Nor would minor modifications remedy the situation. Rather, the static geometry of the original had to be transformed into a lively order for which the dimensions and specifications of working drawings were not only limiting but inappropriate. Like any community project, this one had to be capable of retaining its original order while at the same time constantly changing and adapting as the process of building continued.

The central question was how the orthogonal system of measurement and dimension could render the non-orthogonal geometry of our scheme and retain the tremendous variety of space and expression that had turned up in the festival. We devised a system of drawing based on proportions and not on dimensions. The logarithmic spiral which was used to organize the scheme was now developed into a system of proportions based on rhythm and harmonics, which allowed us to develop or change a particular element without losing the general order.

We selected stone for our construction as best suited to an environment, which included the stone and brick construction of the Ibn Tūlūn mosque and a few Mamluk and Ottoman buildings in the neighborhood along with the reinforced concrete of most of the rest of the buildings. We thought that stone would represent a meeting point for the carpenters, farmworkers, steelworkers, and surveyors of the typical Egyptian general contracting crew and any traditional craftsmen who might still be found in the community. The wall-bearing construction which we chose utilized arches, vaults, and domes which allowed for freedom and liveliness in the general order.

In Egypt the law requires that publicly financed projects be assigned to general contractors through public bidding. This means that contractors' crews usually will not include craftsmen. To surmount this difficulty we divided the work up into two categories of operation: ordinary work – including the foundations, damp-proofing, and regular walls – that would strictly adhere to the dictates of the drawings, and extraordinary work – arches, vaults, domes, and curved walls – that would require both technical work and the expertise of craftsmen. For the extraordinary work, we required the technician to prepare a full-scale model of each element, with the craftsmen present to advise on the materials and techniques involved. These models were then used as patterns for carving stone and

building vaults and arches. This way we were able to combine the skills of the stoneworker and his instinctive knowledge of geometry and measurement with the technician's ability to work from written instructions and drawings. The combination also made it easier to introduce innovation. It allowed the craftsmen to rescue lost skills with the aid of the technicians and the technicians to add advanced skills to their ordinary tasks of steel reinforcement and waterproofing. (Incidentally, some of them revived the ancient ritual of animal sacrifice before reinforcing some of the foundations.)

Contractors are supposed to be accountable to the architect, who in turn should be accountable to the client. Contractors subcontract out particular jobs to a chain of other subcontractors in such a way that the interplay between the technicians and the craftsmen that we had proposed would have been impossible to manage. Public clients, whether government or corporations or cooperatives, are not really interested in construction innovation. Our park was no exception. The bureaucracy had its representative on the site, and this required a basic change in procedure. Instead of the contractor, the architect assumed responsibility for relations between technicians and craftsmen and left management in charge of supplies and the hiring, training, and organization of unskilled labor.

I cannot be a judge of my own work, but there is no doubt that it has already forged a link between the activity of building and the culture of the community at al-Sayyidah Zaynab.